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EPILEPSY*

BY

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Now and again in the history of medicine the invention of a new instrument suddenly lights up the path of clinical observation so that many things which have been seen dimly become clear. Speculation is replaced by knowledge, which in turn shows the way to further speculation. Thought advances at a bound. At such a moment it may be forgotten that had it not been for all the patient and careful examination of what had already been seen this advance could never have been made, and that further progress must still depend upon clinical observation, helped, but not replaced, by the new method. The electro-encephalogram (E.E.G.) has thrown a light into many dark places on our way to the knowledge of epilepsy, but I would remind you at the outset that although the existence of an abnormal discharge of energy in the cerebral cortex coincident with epileptic attacks has only recently been proved by electrical methods, Hughlings Jackson seventy years ago conceived the idea that such a discharge must be the basis of epilepsy, and his views have been accepted by neurologists since that time as the basis of further speculation.

One of the ways in which the E.E.G. has helped the neurologist is in testing clinical hypothesis. For example, a man aged 30 came to me in 1947 with the story of two recent generalized epileptic attacks. There was a family history of epilepsy. The patient also complained of twitching in his eyes, which had gone on continuously since he could remember. This symptom was easily observed, for it occurred two or three times in every five minutes. The eyelids closed briskly but not so completely as to prevent one seeing an associated upward movement of the eyeballs. The whole episode lasted about a second. This complaint had been diagnosed as a tic or habit spasm, but it was not quite like a voluntary movement. Incomplete closure of the eyes as a voluntary movement is not associated with visible upward movement of the eyeball. Considered in its setting the symptoms suggested an epileptic discharge for this reason, and I made a note that I thought it must be epileptic though I had never seen a case with such frequent, circumscribed, and stereotyped motor expression. There, before the advent of the E.E.G., the observation would have ended in suspicion without proof. The electrical record showed a typical epileptic discharge with each episode of blinking. Confirmation in a case of this kind is of great value, for we have all many times seen little attacks in which the diagnosis has been doubtful, and with increasing experience we have all probably become less inclined to exclude epilepsy as the cause, because we have continued to observe new and sometimes quite peculiar variants happening, at first alone, but later as the aura of an undoubted fit. Now we have at least the chance of getting confirmation, though a negative record would still leave doubt, for in these very brief myoclonic episodes there may be no detectable electric discharge.

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Epileptic Variants

There are many variants of epilepsy of whose nature we can be sure without the aid of the E.E.G., but which because they depart so far from the "ordinary" attacks are apt to escape recognition. I suppose that loss of consciousness with or without convulsive spasm is the criterion most widely used in practice for the diagnosis of epileptic attacks. It is not sufficiently appreciated that in many attacks consciousness is not lost but disturbed. The sufferer may be aware of all that is going on around him, may hear and understand what is being said, but is for the time being unable, as he says, to collect his thoughts or reply to a question. There is in fact not loss of consciousness, but confusion, which may be of the mildest degree. As Gowers put it, the effect of an epileptic attack upon the stream of consciousness may vary from a complete interruption of its flow to a mere ruffling of the surface.

Apart from convulsive spasm there may be a momentary *loss* of power, and on the sensory side a great variety of abnormal feelings constituting the epileptic aura, which may occur without disturbance of consciousness. The chief characteristic of all these slight attacks is their suddenness and brevity. It would be impossible here to attempt any classification of epileptic variants. I shall select one or two for example.

First, the attacks called myoclonic. Anyone who has witnessed a generalized convulsion will have observed that sometimes after this is over there is occasional twitching of the limbs, which may continue for a while after the patient has regained his senses. Myoclonic twitching of this type often precedes an epileptic attack, and it may be the only symptom of an attack. Usually it is confined to the arms, and is especially apt to occur during the first hour or two after waking. There is no disturbance of consciousness, but sudden jerking movements of one or both arms which may interfere for the moment with dressing or shaving. The experienced patient knows when this happens that he may have a fit, but quite often the myoclonus passes off without this. The movements are fractions of a generalized convulsion. In rare instances such myoclonic twitching may be the only evidence of

epilepsy in a patient who never has any generalized convulsion or disturbance of consciousness, and may occur with great frequency

Next let me take a rare form of attack. Ramsay Hunt (1922) noted many years ago that a patient might sometimes fall without any disturbance of consciousness at all. Recognizing the epileptic character of these attacks, he called them "drop seizures." I have met with several examples of this kind of attack, and two families in which several members were afflicted. I recently saw a married woman of 62 whose only complaint was of falling attacks. These she had had since the birth of her first child when she was 26. They tended to occur in series at long intervals, and she had had five in as many weeks before I saw her. All were exactly the same. They occurred only when she was standing; without warning and without any impairment of consciousness she fell to the ground, as a rule forwards on hands and knees, often bruising herself. She was immediately able to get up without assistance. These attacks were never precipitated by laughter or other emotion, being thus distinguished from the well-known phenomenon of cataplexy. Her mother, who died at 65, had exactly similar attacks during the last ten years of her life, and an older sister also has them.

Focal Symptomatology

All these peculiar phenomena of the epileptic attack should, I think, be classified under the heading of focal symptoms because symptoms which are so specific must be related to the site of maximal epileptic discharge. This was the conception of Hughlings Jackson, derived from clinical observation long before modern methods had provided opportunity for precise observation. Seeking proof to support his theory, he found a case in which convulsive spasm in a single limb was associated with a scar in the appropriate area of cortex due to a depressed fracture. Hence the extraordinary notion that Jacksonian epilepsy and traumatic epilepsy were the same thing. Jackson used a case, which happened to be traumatic, to prove his argument that a lesion of a particular part would cause a particular kind of attack. To anyone who reads his papers it must be perfectly clear that this was all he meant. He was concerned with the localization of the lesion, not with its pathology. He was well aware that focal symptoms might occur in cases of brain tumour, or in what is called idiopathic epilepsy. Dr. James Collier used to say that the commonest cause of a Jacksonian attack was idiopathic epilepsy—a broad generalization which I believe is true when the idiopathic attacks are accurately observed, for there is very often an initial symptom of the attack which indicates a focal origin.

Penfield's (1946) observations in recent years have enriched our knowledge of focal symptomatology. With painstaking accuracy he has recorded the effects of electrical stimulation of different areas of cortex in patients subjected to craniotomy under local analgesia. His experiments have confirmed in the most striking way many of the conclusions reached by Hughlings Jackson from clinical observation. Jackson, for example, first described two kinds of attack associated with lesions of the anterior temporal lobe—the hallucinatory attack of taste or smell, and what he called the dreamy state Penfield was able to produce both kinds of attack by stimulation of the anterior temporal cortex and of no other part of the brain. These attacks therefore have great localizing value, and the descriptions given by patients are characteristic. The smell or taste is always the same, always unpleasant, never quite like any normal taste or smell. The dream, which may include both hallucinations and illusions, has the dreamlike combination of unreality and familiarity. In many cases both of organic disease and of idiopathic epilepsy Penfield was able to reproduce by stimulation attacks which the patient recognized as the same as those which happened spontaneously.

From what I have said you will appreciate that when we recognize a focal origin for the attack this does *not* imply an organic basis. Nevertheless the story of focal attacks in a patient with idiopathic epilepsy is usually different from that of a patient with a cerebral tumour, and the difference seems to depend upon the existence in idiopathic epilepsy of an abnormal state of the cortex as a whole, which makes it easier for the epileptic discharge to spread. The focal attack of idiopathic epilepsy may remain focal if the discharge is a slight one, but a more severe discharge will tend to spread. Consequently the patient often has minor attacks which consist of nothing but what we call an aura; but if there is a major attack consciousness is lost and convulsion, if it occurs, is generalized. By contrast, the discharge from an organic lesion is often restricted whatever its degree. The patient may have focal convulsions or sensory phenomena of considerable extent and rapid recurrence with no loss of consciousness or generalized convulsion. Such attacks recurring in stereotyped form usually indicate a coarse lesion—most often, of course, a tumour.

Modern Methods of Pathological Diagnosis

The preliminary sifting is made from the clinical data. Fits beginning under the age of 20 in those with a positive family history are idiopathic unless there is some strong clinical evidence to the contrary. The same is true of fits beginning in this age period which have continued for several years even though the family history is negative. But when we meet with a recent history of fits in an adolescent with negative family history and clinical examination, a radiograph of the skull is worth while. It is a simple procedure, and now and again will reveal some gross abnormality. For example, an otherwise healthy girl of 16 had a single fit with generalized convulsion and loss of senses. The onset was with spitting as if she wanted to get rid of something unpleasant—suggestive of a temporal lobe focus. Clinical examination was negative, and there was no family history of attacks. The radiograph showed a calcified tuberculoma in the right temporal lobe.

In adults the onset of the fits demands more detailed investigation. Past head injury, middle-ear or sinus infection, encephalitis, and cerebral syphilis are uncommon but important causes, and anyone who has lived in India should have the limbs *x*-rayed for evidence of cysticercosis. Radiographs of the skull should be done as a routine—calcification is quite common in the gliomas, which are the commonest of cerebral tumours. The E.E.G. is useful, and doubtless when apparatus is available will be considered indispensable. In 50% of idiopathic epileptics the record is of positive diagnostic value, and in another 25% it shows abnormalities which are suggestive. An organic lesion if fairly near the surface shows focal slow wave activity. An air encephalogram completes the investigation. Useful information can be obtained by the injection of 30 c.cm. by lumbar puncture—a procedure which as a rule upsets the patient only for a day or two. If epilepsy is symptomatic of a removable tumour (meningioma) there will very probably be a filling defect, though normal pictures are compatible with an infiltrating glioma. No one quite knows how many of the patients without apparent hereditary or other cause starting to have fits in adult life eventually prove to have tumours. It is commonly estimated at 50%.

Nattrass (1943) has questioned this belief on the basis of a follow-up of 81 cases whose first attack was after the age of 40, finding that of 57 who could be traced 16 had died in less than twelve years, but only nine of proved organic cerebral disease. The course in the others, both dead and survivors, had been that of idiopathic epilepsy. My impression is that his figures, though small, are near the truth. A considerable number of idiopathic epileptics have their first attack after 30, and idiopathic epilepsy is a very common disease.

Causation

About the causation of idiopathic epilepsy we have much still to learn, but the E.E.G. has taught us a good deal about the hereditary factor. Its familial incidence has of course been long recognized, though in only about a quarter of the cases, and then curiously enough more often in siblings, aunts, and uncles than in either parent; but Lennox and the Gibbses (1940) have recorded the following observations. They examined E.E.G. of 183 first-degree relatives of 94 patients with clinical epilepsy and found abnormal E.E.G.s in 60% as compared with 10% of 100 persons with no personal or family history of epilepsy. In 53 instances records were obtained from both parents, and in only 5% were both normal. Even more startling was the finding that in 35% both parents showed an abnormal E.E.G. Of the relatives with abnormal E.E.G.s only 1 in 3 had clinical epilepsy. Lennox and his collaborators conclude that the abnormal E.E.G., presumably associated with an epileptic tendency, may be inherited as a dominant trait. The risk of an epileptic offspring having epileptic children is great only if the mate also carries the trait. Thus if a person with epilepsy will choose a mate who has a normal brain rhythm his chance of having any offspring with epilepsy is greatly reduced. His chances of normal offspring are greater than those of parents both of whom have no present or family abnormality but have brain waves of abnormal frequency.

The E.E.G. has therefore become an indispensable aid to the doctor who is asked for advice about the risk of inheritance by a person about to marry who has a personal or family history of epilepsy. The answer is that if the proposed mate has no personal or family history of the disease and has a normal E.E.G. the risk is negligible.

It is fairly safe to assume from the available data that the most important cause of idiopathic epilepsy is an inborn liability to abnormal cortical discharge. If this is granted we still want to know what are the conditions which from time to time precipitate this discharge. We know that most people may have epileptic attacks under certain conditions —for example, extreme degrees of cerebral anoxia or hypoglycaemia—but in idiopathic epilepsy no such conditions are required. The attacks as a rule occur without any apparent cause. In a very small proportion of the cases the opposite is true—the attacks occur only with a specific precipitant. These cases of so-called reflex epilepsy form an interesting group. The best-known example probably is acousticomotor epilepsy, in which a sudden noise precipitates an attack, but there are many others. Coughing, micturition, and sexual orgasm, for instance, may be specific precipitants, or sudden contact of particular parts of the body. In this last group sometimes local contact will provoke a focal attack in the part touched, and electrical records can show the arrival of the sensory impulse in the cortex, the local epileptic discharge, and the resulting muscular contraction occurring in a time sequence corresponding with the known rate of conduction of the nervous impulse.

The artificial production of attacks in epileptics is often possible by alkalosis induced by over-breathing, or by extreme hydration brought about by a high fluid intake and injections of "pitressin," but there is no evidence to suggest that these causes are commonly of any clinical importance.

Age is certainly important. Infants are peculiarly susceptible to fits, but it is certain that in many cases infantile convulsions are evident of an abnormal liability in this direction. The proportion of infants with convulsions who later develop epilepsy is higher than of those who have not had them; a history of infantile convulsions is commoner in epileptics than in non-epileptics; and a history of infantile convulsions is more often obtained among the relatives of epileptics than of non-epileptics: all these differences are significant and the point has an important bearing upon treatment. An infantile convulsion, especially if without adequate precipitating cause, should be the occasion for inquiry into the family history, and if this is positive regular and protracted sedative treatment should be given.

A striking feature in many cases of epilepsy is the time at which the attacks occur. They may occur only during sleep or between certain hours of the day, often during the first hour or two. A monthly rhythm is frequently noticed in women on account of the relation to menstruation, but is also to be observed in males. Periodicity of the attacks, however, may be seen at much longer intervals of months or years (Griffiths and Tylor Fox, 1938). Such periodicity must always be looked for and taken into account in treatment. Without this it is impossible to estimate the efficacy of drugs.

Diagnosis of Epileptic Attacks

I shall confine myself here to the distinction between epilepsy and syncope, which I think may be a very difficult problem. Syncope as a rule has an obvious cause—for example, long standing, especially on an empty stomach, sudden emotion, or intense apprehension—and it is fairly safe to say that a sudden attack of falling with loss of consciousness without such a cause is not syncopal. It is not so safe to assume that an attack of this kind provoked by emotion is not epileptic. In some persons with reflex epilepsy emotion may be the precipitant, and it may be a particular kind of emotion. In a syncopal attack there is usually some warning—dimness of vision, weakness, uncertainty of balance. But this is not an absolute rule. A person may fall in a faint with little or no warning; and, conversely, a minor epileptic attack may be preceded by similar sensations. If the epileptic attack is closely observed twitching of face or hands is commonly seen—symptoms which at first might be considered diagnostic of epilepsy. But this is not true. If the cerebral anoxia resulting from syncope is severe enough an epileptic discharge with twitching is the result. The following case illustrates the difficulties of differential diagnosis.

In 1937 I saw a boy aged 13 with the history that in the previous six years he had had five attacks of unconsciousness. The first occurred when he had a tooth out with local analgesia, the second on getting up after influenza, when at lunch he suddenly slid unconscious under the table. The third happened when he was standing in a row of boys at school waiting to be examined by a doctor, the fourth also at school while waiting to be inoculated, the fifth when because of the recent attack he was taken to see his family doctor, who gave the following account. "While I was listening to his heart and chest I looked up at his face and noticed he was very white. He then fell. At first he was pale; his lips then became cyanosed, and at the same time I noticed twitching of fingers and hands. This lasted only a few moments; his colour then immediately returned and he got up and said he was all right." The only relevant fact in the family history was that a maternal uncle had from childhood

always fainted easily when frightened—if, for example, he saw an accident. The patient himself had had a serious head injury in a car accident at the age of 3, being severely confused for a fortnight. I decided in favour of syncope, and heard no more of him till he was 21 and an officer in the Guards.

The story then was that he had had no further attacks till he was at Sandhurst, when while listening to a lecture on first aid he had suddenly lost his senses and fallen from his seat on to the floor. A year later he had a similar attack while being medically examined. The medical officer was convinced from his observation that this was an epileptic attack and sent him to a neurologist with this diagnosis. While the neurologist was listening to his heart it suddenly slowed to a rate of about 20 a minute and then stopped for an estimated period of 45 seconds, during which the report stated "he had a fit, rolling eyes, rigidity, and a few convulsive movements." The neurological diagnosis was Stokes–Adams disease, and he was recommended for invaliding. The E.C.G. and E.E.G. were normal.

Dr. Denis Williams then staged an attack. Preparations were made for simultaneous recording of E.E.G. and E.C.G; a rather large needle was produced and the patient was told that it would be stuck into his arm and would be painful. He at once became pale, with marked slowing of the heart beat; his lips became cyanosed and he was momentarily confused. There was no abnormality in the E.E.G. My conclusion was that these attacks were neither epileptic nor symptomatic of heart block, but severe syncopal attacks with a specific emotional precipitant. I gave considerable weight to the family history. However, I advised that he should see Dr. Parkinson, who was confident that they were not Stokes–Adams attacks but gave his opinion against the diagnosis of syncope. His arguments, which he has kindly allowed me to quote, are of great interest. "I know that in extreme instances of fainting convulsions can occur, but rarely. Ordinary faints seldom persist from age 8 to 21 years; the warning is longer, and lesser degrees are common in the same individual. You will gather that in my opinion they might be severe faints, but I incline personally to regard them as of an epileptic nature."

It is my own opinion that we have here an example of what might justly be called reflex syncope. I have met with several comparable examples, and all have had these features in common: (1) a specific liability to faint at the sight of blood, or an accident, or the account or thought of injury or illness; (2) a tendency for this liability to begin in youth and persist into adult life; (3) the occurrence in some attacks of epileptiform convulsions; and (4) a family history of similar liability.

Anticonvulsant Drugs and E.E.G.

The E.E.G. has been of a certain value in providing scientific proof of the efficiency of anticonvulsant drugs. Many patients who are subject to repeated attacks show between these attacks very frequent brief discharges on the E.E.G. which are characteristic of an epileptiform explosion. These are known as subclinical attacks, and it can be shown that their frequency can be diminished or even abolished by sufficient doses of phenobarbitone. Another interesting demonstration is the effect of concentrated mental activity in inhibiting these subclinical attacks, confirming the impression of all experienced clinicians that epilepsy is most apt to occur when the mind is empty and least when it is active and busy. Unfortunately the impression of many lay persons is the opposite, and the doctor is often expected to prescribe prolonged absence from school at the onset of epilepsy—advice which is sometimes given with harm to the patient.

The most important contribution of the E.E.G. to treatment, however, is in connexion with the new drug "tridione." The normal E.E.G. consists of a fairly regular 10-a-second rhythm of low-voltage discharges. Of all patients with clinical epilepsy 25% show rhythms within normal limits; 50% show abnormality of an irregular kind—usually medium-voltage slow-wave activity; 25% show runs of slow- or fast-wave activity which is characteristic of epilepsy. In this group—the epileptics with epileptic E.E.G.s—there are different kinds of abnormality in the E.E.G. which corresponds roughly to different varieties of attack.

In what is clinically called grand mal—loss of senses with generalized convulsions—the E.E.G. shows bursts of high-voltage fast waves or spikes. Attacks of similar pattern but lesser degree, which the clinician might well call petit mal—brief loss of senses with widespread but slight and momentary tonic and clonic spasm—are associated with the same type of E.E.G.—i.e., the grand mal type of E.E.G. A new name is needed for these attacks, and, based upon the E.E.G. findings, the somewhat ambiguous title "minor grand mal" has been used to describe them. The term has some practical value because attacks with this type of E.E.G., whether grand mal or minor grand mal, respond on the whole better to phenobarbitone, with or without "epanutin," than to other drugs.

Another type of E.E.G. is that in which there is a series of medium-voltage flat-topped slow waves. This is found to be associated with attacks in which confusion and disordered behaviour are the outstanding features, with little or no muscular twitching. These so-called psychomotor attacks respond best to epanutin.

The third type of E.E.G. is characterized by alternating slow and fast waves of rather high voltage—the so-called wave-and-spike complex. This again is subdivided into a round wave followed by a sharp spike—the so-called dome-and-dart E.E.G.—which is characteristic of true petit mal, and a more rapid alternation of flat-topped wave and spike known by electro-encephalographers as the petit-mal variant. Of practical importance here is that if attacks are associated with the dome-and-dart E.E.G. they are likely to be controlled by tridione and are equally unlikely to be influenced by any other anti-epileptic drug. The dome-and-dart E.E.G. is invariably found in what at one time was called pyknolepsy. The main characteristics of this variety of petit mal are an onset in childhood; the daily occurrence of frequent, brief, stereotyped attacks of loss of consciousness seldom accompanied by muscular twitching, except in the face; preservation of the intellectual functions; and a relatively good prognosis. It was recognized before the advent of tridione that the attacks not infrequently ceased at puberty never to return. Other clinical varieties of what the electro-encephalographer calls a true petit mal because of the association with a dome-and-dart complex are brief myoclonic attacks and attacks in which there is sudden falling with loss of consciousness but without twitching. Lennox (1947a) has reported the effects of treatment with tridione in 166 patients with true petit mal, having the characteristic E.E.G.: 31% became entirely free from attacks, 32% had less than one-fourth the previous number; 20% improved to a lesser extent, and 17% are unimproved. By contrast, tridione given to patients with uncomplicated grand mal brought about improvement in only 20%, and actually made 50% of the patients worse. Patients with psychomotor attacks are not so often the worse for tridione, but they do not do so well as with epanutin. I have mentioned that the clinical pattern of true petit mal varies, including very brief loss of consciousness with twitching, if any, confined to the face: myoclonic twitching without loss of consciousness; and attacks of falling with momentary disturbance of consciousness. All three of these clinical variants are equally amenable to tridione. The shorter the history and the younger the patient the better the result of treatment.

Tridione is dispensed in 0.3-g. capsules. The initial daily dosage for infants is one capsule a day, for those aged 2–4 years two capsules a day, for those 5–16 years three capsules a day, and for adults three or four capsules a day. If after one month the attacks are not controlled the dose is increased by one capsule at monthly intervals until relief is secured, toxic symptoms occur, or the dose is doubled. The maximum improvement is usually in the first month, but Lennox reports the case of a child of 8 having 50 to 70 attacks a day in whom at the end of six months the dose was raised to seven capsules daily with final disappearance of the attacks

The commonest toxic symptom is photophobia, which occurs in about half the cases. It is very seldom severe enough to require cessation of treatment, though sometimes the patient may have to wear dark glasses in sunlight. Rashes have been observed in 14% of cases treated, usually acneiform and confined to the face, sometimes generalized and like that of measles. This calls for cessation of treatment, which is begun again when the rash has subsided, starting with one capsule every other day and gradually increasing the dose to the required level. Most patients acquire tolerance. Much more important, but apparently rare, is the danger of agranulocytosis. Lennox reports three deaths from this cause, and it follows that a fortnightly white blood count is essential for all patients taking tridione. Lennox recommends that a leucocyte count below 4,000 together with polymorphonuclears less than 40% should be an indication for at least temporary discontinuance.

Social Problem of Epilepsy

The epileptic in society has not hitherto been given much sympathy or help. He is obviously disqualified from many professions and trades, but most epileptics are intelligent and normal persons apart from their attacks, and quite able to earn their living. In the U.S.A. it has been estimated that 1 in 200 of the population are epileptic, and there is no reason to suppose that the incidence in this country is less—which means that there are something like a quarter of a million persons suffering from this malady in Great Britain. Supposing half of these to be educable and employable the problem deserves special consideration if only on account of its size. A good deal has been done in America to bring the public to a sense of their responsibility in this matter. There is, however, an instinctive repugnance among healthy people not so much for the disease as for the sight of an attack, and it is for this reason that I believe schoolmasters and parents on the one hand and employers on the other may successfully resist the humanitarian appeal for the epileptic to be admitted more freely to the normal social group. More epileptic schools and self-supporting colonies therefore seem to be the answer.

One problem which most of us must have encountered is that of the epileptic who wants to drive a car, and often does so whatever medical advice may have been given. The applicant for a licence has to answer the question "Do you suffer from epilepsy?" and is told that if in doubt regarding the answer he should get professional advice. The responsibility for declaring a liability to fits clearly lies with the applicant, but it is presumably the responsibility of the applicant's medical attendant to inform him that he has such a liability. Many patients have consulted me who have had one or more epileptic attacks but as the result of treatment have been free from attacks for so long that they claim, not unreasonably, that they should no longer be considered liable to fits as applicants for a driving licence. I have sought from the Ministry of Health and from the Home Office a definition of epileptic liability for purposes of the Road Traffic Act with no very satisfactory result. My inquiries were related to two separate cases—one that of a man whose fits had been traumatic and who after surgical removal of a bone fragment which had penetrated the dura had remained free for two years. The other patient, a young farmer, had had two attacks of the idiopathic kind. I advised regular dosage with phenobarbitone and told him on no account to stop this without seeing me again. He returned six years later, having continued regularly with his treatment, with no further attacks. Owing to the death of his father he was now in a position in which inability to drive a car was a very serious handicap.

I am informed that the Ministry of Transport in drawing up the regulations for driving licences were advised by a committee of experts appointed by the B.M.A. and were advised that "once an epileptic always an epileptic," and that any person who has at any time suffered from fits should be refused a driving licence. No legal ruling, however, was made, and the answer to my specific question in 1946 was that there is no provision in the law which defines the time which must elapse from the occurrence of a seizure before an applicant for a driving licence may be certified as not being liable to fits. "The legal department takes the view that subsequent liability under the circumstances is entirely a medical question." This to my mind is an unsatisfactory state of affairs, placing as it does an unfair onus upon the practitioner. For his own protection he would probably be wise to inform his patients that the occurrence of a single epileptic attack is a permanent disqualification for a driving licence. This also may be the ideal advice for the protection of society, but is it practically fair? As Lennox (1947b) points out, driving accidents must be at least a hundred times more often due to chronic alcoholism than to epilepsy, but the applicant is not required to state that he has never been under treatment for alcoholism. Nor are patients with known coronary disease debarred. I have known two who have had coronary occlusion when driving, in each case resulting in a serious accident. I think it is time that legal machinery should be set up which would enable the epileptic who has been free from attacks for a specified period to state his case before an impartial tribunal. This would not only be fairer to the epileptic but would also be in the public interest. I have no doubt that at present many epileptics are driving to the danger of the public who might be deterred from doing so by a law providing a specified period of freedom from attacks.

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The annual report of the Institute of Child Health of Birmingham University has recently been published. The Institute attaches great importance to postgraduate training, dividing it broadly into three main types: (1) for those doctors who intend to specialize in paediatrics; (2) for general practitioners who want a refresher course; and (3) for medical men who want to specialize in administration. The Institute has received large numbers of applications from postgraduate students in Britain and abroad, and during 1947 received students from India, Palestine, Italy, Poland, Malta, and South Africa. Some of the main lines of research carried out at the Institute are outlined in the report as follows: (1) The nutrition of premature infants. This work is sponsored in part by the Medical Research Council and is being carried out at the Premature Baby Unit at Sorrento. (2) Protein digests in premature, wasted, and marasmic infants. (3) Infections in infancy—nature, reactions, and treatment. (4) Protein and fat metabolism in coeliac disease. (5) Aplastic anaemia, kernicterus, and other haematological problems. (6) Causes of stillbirth and neonatal death.

A PSYCHO-ANALYTIC CONCEPT OF THE ORIGIN OF DEPRESSION*

BY

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General interest in the psycho-analytic psychopathology of depression may have been kept in the background for a long time owing to the rapid development of interest in the psychopathological understanding of the less complex symptoms common in neurosis, such as anxieties, phobias, obsessions, etc. The psychopathology of schizophrenic symptoms, where the mechanisms sometimes seemed obvious and apparent but where the psycho-analytic treatment was not then helpful, interested more analysts in the early days than did the psychopathology of manic-depressive symptoms. Nevertheless since 1911, when Abraham first discussed depression, the psycho-analytic psychology of normal sorrow, depression, mourning, and grief, and the psychopathology of abnormal depressions have gradually developed until now concepts have been worked out which are to a considerable degree new and can be stated simply. Such new concepts have been found to be of essential value in psycho-analytic attempts at therapy and investigation of depressed states regardless of the degree of severity, regardless of the sex, and more or less regardless of the age—children as young as 2½ years and adults in the sixth decade having been treated.

The earlier work of analytic writers (Abraham, 1911, 1916, 1924; Sigmund Freud, 1917; Rado, 1927; Jones, 1929) was invaluable. The background of theoretical construction already developed was necessary to make the recent development possible. With the recent work courage was needed to make the new observations. The work done in this country in the past 15 to 20 years, chiefly by and under the stimulation of Klein, has brought much clarity to the problem of abnormal depressed states, and incidentally points the way to further work with schizophrenia. Klein published her first conclusions on this subject in 1935. She has added much to our knowledge of the technique of investigation and attempts at therapy, and has added (1940) to our theoretical constructions.

Most of the views I am putting forward are based on evidence personally obtained during the psycho-analytic treatment of neuroses with depression and with manic-depressive states in different sexes of different ages from late infancy to late life (Scott, 1946).

First Appearance of Depression

To introduce the subject a brief outline needs to be given of how the infant develops to a stage which allows depression to appear for the first time. What follows after this stage of development has been reached is the history of the different forms depression assumes at different periods of life. Just as the early stages of love and hate are significant in understanding their later development, so also may the varieties of adult depression become understood to a greater degree if we can become clearer about the genesis of depression in human life.

Regardless of different views about the source or nature of instinct, it can be said that from an early age the infant breathes air, sucks milk, passes water and stool, moves about, and sleeps. These activities are normally pleasant. If any of these activities is frustrated the infant becomes angry. Regardless of how intense or diffuse his anger may become, regardless of how many organs he uses to vent his anger, he will first show his anger in the situation where the frustration is; for instance, if breathing is frustrated he will breathe angrily, if sucking is frustrated he will suck angrily.

From the earliest period of life one aspect of each of these pleasant or angry activities is its direction, namely, the direction of movement or interchange between what can be called the outer and the inner worlds, or the direction of interchange between this inner world and the outer world—for instance, breathing in, breathing out, swallowing in, vomiting out, etc.

Only slowly in the developing scheme of things are "people" as the adult knows them included. Earlier the world consists of what adults would call "parts"—breasts, faces, hands, etc. Only slowly in the scheme of things does a "self" as a "whole person" or "other people" as "whole people" develop. Only slowly do distinctions between what are later called perceptions, memories, images, etc., arise. Along this line of development crucial points can be discovered, and it appears that at one of these crucial points depression becomes possible for the first time. Previously only simpler affects, such as anger, pleasure, pain, fear, etc., are possible. It is in relationship to the manner in which these early depressive feelings arise and are dealt with that we can see the hope of understanding the symptoms of later depressions and understand how they can be dealt with. It is here that we see the beginnings of the development of normal tolerance of depression, of normal ways of dealing with depression, and also the beginnings of pathological depressed states.

"Good" and "Bad"

Let us follow some of these early sequences in greater detail. Hunger *may* lead to sucking a breast or breast substitute and to pleasure. Through the feelings of breathing, sucking, smelling, touching, swallowing, etc., the feeling of a "good something" going into or entering the inner world occurs. Technically this something is customarily referred to as an "object." During or following such an experience the child may pass water or stool or sleep with pleasure without as yet clearly appreciating with the same clarity as it later will that there is "a something" or "an object" associated with the experience of evacuation. Nevertheless he is already beginning to realize that an interchange between the outer and the inner world and between the inner world and the outer world is occurring. The general feeling of an infant feeding and later evacuating and sleeping is that both the inner and the outer world are "good" and that a "good" interchange in each direction has occurred.

On the other hand, hunger *may not* be followed by such a satisfying experience. Instead it may be followed by frustration and bellowing and gnashing of toothless gums, by angry movements, by passing water and stool in his rage, and so forth. This leads to the feeling that the inner and outer worlds are "bad" and that any object differentiation in the inner or outer world is into many "bad" objects, and that any interchanges between the inner and the outer world, which may have occurred in either direction, have been bad. Such a bout of anger may, of course, be followed later by satisfaction, but this type of satisfaction will be different from what it would have been had the bout of anger not preceded it. Similar experiences are repeated and repeated. The series of pleasures, frustrations, and annoyances build up memories, on the one hand, of attitudes to the inner and outer worlds in which the omnipotent infantile loving imagination has had free play, and, on the other hand, of persecutory attitudes to the outer and inner worlds in which omnipotent infantile hateful imaginations have had free play. Here much may be learned

*A paper read on Sept. 10, 1947, at a Symposium on "The Psychopathology of Depression" at the International Conference of Physicians in London.

concerning the developing attitude to the external world, to the body, and to the inner world of phantasy, memory, constructive thought, and so forth; and further work in this field should lead to our understanding of much that we are ignorant of in the psychopathology of schizophrenia.

Love and Hate

But it is the next step in development to which I wish to refer specifically. Sooner or later *sufficient integration occurs for the infant to realize that the memories of the loving satisfying breast and the hated frustrating breast are of one and the same breast, and that memories of the happy, sucking mouth and of the angry, frustrated, hungry mouth are of the same mouth.* I said "sooner or later"—the time will depend at least on the degree of maturity at birth, the constitutional intellectual endowment, and the quality of the previous emotional development. In other words an integration seems to occur in which the belief in a continuing self, or what would later be called a part of the self, emerges and the belief in continuing people in the environment, or what would later be called parts of these people, emerges. Coincident with this integration a new affective state arises. The realization that maximal love and maximal hate can be expressed by the same bodily organs, that both maximal love and maximal hate can be felt towards the same object, and that this object can be both satisfying and frustrating or can appear to be loving and hating is crucial. Another way of saying the same thing is that the earliest form of depression is the feeling which emerges, first, out of the realization that it is the same self that can both love and hate; secondly, out of the realization that the ego can hate and love the same object; and, thirdly, out of the realization that the same object or person can be gratifying or frustrating or can appear to be loving or hating. Whether or not this new feeling is tolerated—whether or not it is accepted as a fact of developing human experience—is certainly important. Tolerance is related at least to whether love is believed to be greater than hate or hate is believed to be greater than love. When the store of love is greater than hate love can be used quickly to overcome, to annul, to repair the effects of hate. Love can be used following separation from or death of a loved person to keep the memory alive and to keep alive the belief in a capacity to love and be loved, and consequently to believe that people worth loving and people who may love one still exist in the outer world. The more normal methods of dealing with depression thus arise.

The Genesis of Depression

There are many ways in which a partial and incomplete tolerance of a depressive situation may arise, and these lead to the many forms and symptoms of the abnormal depressive states of all degrees of severity. The many ways in which the intolerance of the depressive situation is shown are at least related to whether the angry impulses, acts, and imaginations are greater than the loving ones. If the anger is greater than the love—if the memories (or their symbolic substitutes) of the many aggressive acts, impulses, and imaginations are greater in strength than the memories of love—then arise hopelessness and depressive anxieties connected with the belief that one can do only bad things and that only bad can be expected of one. This may lead to a situation in which the self has to be destroyed to protect from one's badness the people and objects which go to make up one's inner and outer worlds. The self will be destroyed actually in suicide, or symbolically in a temper tantrum or a fit.

The situation I have tried to describe is the earliest example of one which will be repeated over and over again during later life. The changing ways the repetitions are dealt with have much to do with personality development and character, but an essential relationship to the realization that the person can both hate and love, and that the same objects can be both loved and hated and believed to be lovable and hateable, remains and is crucial. Subsequent developments concerning the realization of one's self as a "whole person" and of other people as "whole people," and of one's self as of a certain sex and of other people each belonging to a certain sex, bring in many complexities, but the importance of the original situation remains. From the onset much—in fact most—of the developments mentioned have occurred unconsciously. Most of the normal ways of dealing with depression have developed unconsciously, as also have the various defences against depression.

The beginnings of depressive feelings related to the integrations already mentioned are concerned with the concepts of a continuing self and of other continuing persons. These beginnings are more in relation to what we would call in adulthood parts of a self or parts of another person. Nevertheless, soon the emphasis shifts as further development occurs to the conception of whole people—to the whole self and the whole people in the environment. Throughout life the conception of what a whole person is, the conception of what a human individual is or is worth, what a lifetime is or is worth, is continually changing and developing, and it is difficult to say what is the best or most useful formulation of a "whole person." At the present stage of human evolution, and being a part of our complicated discontented civilization, one would hesitate to generalize concerning "wholeness," but at least one can be tolerably sure that the study of what a "good whole person" is is intimately connected with the study of healthy and unhealthy ways of dealing with the depressive situation.

Connected with the integration which results in the belief in a whole self and in whole people (which often lasts more or less a lifetime with relatively little alteration) the conscience begins to develop in an elaborate form. One might have thought that the complicated nature of the good and bad conscience in depressive states would have forced psychiatrists long ago to realize the need for using methods of investigation which would bring to consciousness further details regarding their development. Analytic methods bring to consciousness details of what has come to be called the super-ego. The super-ego is both a great hindrance and a great help. Gradually more concerning its development has been elucidated. The super-ego is a much more elaborate, inhibiting, and stimulating unconscious construct than all that is connoted by a good and bad conscience. With adults, of course, the manifold implications of conscience and the super-ego have their importance in the symptomatology of depressive states. Nevertheless, depressive states and depressive anxieties (guilt, remorse, regret, etc.) can arise in connexion with simultaneous love and hate of part objects which are realized to have a continuing existence. In the analysis of depressed children and manic-depressive adults the content of analysis may deal mostly with memories (or their symbolic substitutes) of repetitions of coincident love and hate of part objects, but part objects which are realized to have a continuing existence. It is this situation which appears to contain the most significant ego and object relationship for the understanding of the genesis of depression.

The content of behaviour and speech of the depressed person deals with his attempt to discover a satisfactory way of dealing with the realization that his hate for some person is greater than his simultaneous love for the same person, without at the same time denying that it is he who feels both love and hate and without denying that it is to the same person that he feels both love and hate. The manifold

symptom-picture has to take account of the nature of the loving and hating impulses, acts, and imaginations at the early stage of development, when the integration already mentioned began. At this period the impulses, acts, and imaginations are predominantly oral. Nevertheless all organ activities which can reach consciousness may play some minor part at this time. Indeed, I think it is difficult to substantiate the view that there is an early period when some organs—for instance, the genital—play no part whatsoever.

Age of Onset

There is disagreement about the age at which depression can first occur, but I believe there is much evidence that it often occurs early in the first six months of life. It must also be remembered that the tests of reality which can be made at such a period are of an infantile type. The intensity and explosiveness of the infantile satisfactions and rages interfere with perception of reality, both inner and outer. The way each satisfaction and each rage is shown colours the outer world and the inner world by rapidly acting and by complicated types of introjection and projection. The effects of these mechanisms lead to many of the later complexities of depressive states. Regardless of how old the person is, if he has not dealt successfully with the infantile depressive situation he will be left throughout life with an infantile attitude to the dangers of realizing that he is a being who can both love and hate simultaneously and can feel both feelings simultaneously for the same person. If treated he may be brought face to face with the intensity of the complicated feelings appropriate to his present-day situation and may for a time suffer more severely while he is learning to deal healthily for the first time with depression.

In such a brief presentation little other than conclusions can be put forward and nothing can be said about the earlier analytic views. The conclusions I have mentioned do not contradict these earlier views. They do little else than elaborate earlier views in the developmental sense. Nevertheless a few brief sketches of the sort of patient whose study has led to these conclusions can be given.

Illustrative Cases

Case 1.—A boy aged 2 years and 1 month became severely disinterested in everything and everybody, following a seemingly successful weaning at 9 months. He became constipated. He was slow and quiet, and showed no interest in learning to speak. During seven months' treatment he became able to deal more normally with the depressive anxieties and situation already described. The subsequent mood-changes were such that in retrospect it was easy to recognize his earlier state as a severe anergic depression. In analysis he showed by play florid content of depressive type. He did not speak a word during analysis, but began to learn to speak at home. By play he could show much more complicated content than he could expect to speak of for years. He did nevertheless make tests of oral projective activity by yelling in rage once and by making a few sounds easily recognizable as signs of considerable pleasure.

Case 2.—A woman of 20, who had for at least 10 years gradually become more disinterested and depressed and later suicidal, showed during more than four years' treatment how homosexuality and severe masochistic and sadistic imaginations were the unhealthy attempts to cope with her forgotten wish to deal with the effects she believed her early aggression has had on her mother. Following much noisy dissatisfaction during the first month of her life, during which she had been breast-fed, she was seemingly satisfactorily weaned. She showed no open oral aggression from the first month of life till many months after the beginning of her treatment. Only after learning to deal with almost simultaneous or at least very rapidly alternating hateful and loving impulses and acts of extreme intensity during treatment, which occurred in a hospital environment, was she able to begin to use her adult capacities to deal with the implications of her previously persistent infantile depression. During the crucial stages of her treatment her emotions were nearly, if not indeed quite, epileptic in intensity. During treatment stuporous states were interrupted by attacks of rage which, I think, were related to epileptic furor. Such rages were followed by disturbances of consciousness. Later intensely energetic loving outbursts occurred. These gradually lessened. The alternating love and hate gradually lessened in intensity as the depression connected with the realization that both were, had been, and would be felt towards the same people became more tolerable.

Case 3.—A man of 59 developed an agitated depression. During treatment he showed how a deep attachment to a grandfather in infancy might have led to the development of adult homosexuality had the grandfather not died at 60, when the patient was 4. The patient did not grieve openly then, but his super-ego became to a large extent modelled on this grandfather. During treatment, when he realized the degree of his identification with his grandfather and when he realized that he had unconsciously feared his own death at 60, he began to be able after the lapse of 55 years to mourn the death of his grandfather openly. He then became able to plan a life modelled on a scheme based more on the memory of the ambivalent love and hate for his own mother, whom he had ceased to feel for in his infancy when he gave his love to his grandfather. Had he coped more healthily with depression in infancy he might not have become so pathologically attached to his grandfather. Thus he might have avoided a severe depression at 59, when his age was nearing that at which his grandfather died. Such a history demonstrates how difficult it would have been to predict, for instance, when he was 40, that he was seriously predisposed to an illness at 59.

One could also sketch many failures, but unfortunately the chief point with regard to the psychopathology of psychoanalytic failures is that the data on which one might base inferences to explain why they were failures cease to be collected. Here I would make a plea to those who have under observation depressed patients who have had analytic treatment and are still unable to deal healthily with depression to report the later developments. I am confident that the patients' previous analysts would co-operate.

Conclusion

I do not think I can do better than suggest that the implications of the simple formula already outlined regarding the onset of depressed states be investigated fully. I restate the formula: out of the realization that at one and the same time it is possible for a person to love and hate, and out of the realization that such love and hate can be felt for one person, emerges the human capacity for depression, both normal and abnormal. The vicissitudes of the imbalance between the loving and hating impulses determine the normal or abnormal subsequent development with regard to the capacity to deal healthily with depression.

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Many students find *Essentials for Final Examinations in Medicine*, by John de Swiet (J. and A. Churchill, 9s.), of value during the harassing weeks before their final examinations, and it has now reached a third edition. No great changes have been made, but the author has brought it up to date by including new sections on penicillin, pellagra, and other changing aspects of medicine, and has added an index. It is no light undertaking to attempt to compress even the salient features of general medicine into so small a compass, but the author has succeeded reasonably well. A few minor inaccuracies are present, but for the most part the information is sound and clearly presented.

THE SIGNIFICANCE OF HARRISON'S GROOVES

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The origin of the term "Harrison's grooves, or sulcus," has hitherto been obscure. Three standard medical dictionaries—Dorland's, Stedman's, and Gould's—attribute the eponym to *Edward* Harrison (1766–1838); but no account of the deformity can be found in any of his works (Edward Harrison, 1806, 1810, 1820). Dr. Charles Singer told us that because of this uncertainty Sir Frederic Still was unable to include a note on the grooves in his *History of Paediatrics*.

Samuel Gee (1870) and W. Fox (1891) both refer to *Edwin* Harrison's method of determining the height of the diaphragm by means of the lateral thoracic grooves, which were apparently common in the early part of the last century. In following up this clue we have been successful in exhuming the original description of the grooves.

Edwin Harrison (1779–1847), a physician to the St. Marylebone Infirmary, wrote no books and few papers. However, the pages of the *London Medical Gazette* for the years 1835–7 reveal that he was interested in the grooves as a physical sign in examination of the chest. The first inkling comes from an article by a Dr. Williams on Oct. 3, 1835. He refers to the grooves, and states that "the chief object of this communication is to announce them to the profession as original observations of my friend, Dr. Harrison, whose peculiar repugnance to authorship deters him from doing so himself." Then, in July, 1836, Clendinning (in a paper which is printed next to Marsh's original description of his test for small quantities of arsenic) gives more details and an acknowledgment to Harrison. Finally, in 1837, Edwin Harrison managed to overcome his "peculiar repugnance to authorship," and we have a note which included the following observations:

"2. On moving the hand along either side of the chest vertically, on what may be considered as the median line, it will sink into a depression corresponding to the height of the diaphragm on that side.

"3. A depression, or depressions, between the ribs can be felt or seen, or both felt and seen, at each abdominal inspiration, indicating (at least in the physiological state) the presence of the diaphragm in that part of the chest.

". . . If it should turn out that my opinions are not so original as I believe them to be, I trust that I shall always be found ready to make the avowal."

Theories of Causation

The mechanism of the formation of the grooves has also remained obscure, and has been the theme of many fairy-tales told to students in their early clinical days. Rilliet and Barthez (1843) first expressed the view that the grooves correspond to the attachment of the diaphragm to the ribs, and this error has been repeated in textbooks up to the present day (Holt, 1939; Nelson, 1946; Paterson and Moncrieff, 1947). Seventeen years later Jenner (1860) pointed out that the grooves are level with the upper surfaces of the liver, spleen, and stomach, whereas the diaphragm is attached to the margins of the ribs and costal cartilages diagonally along the thoracic outlet. This observation was given publicity by Charles West (1874) in what was for many years a standard textbook on children's diseases.

Rilliet and Barthez (1843) also postulated a gap between the attachments of the major muscles of thoracic respiration and those of the diaphragm: they suggested that the negative intrathoracic tension is in that area able to overcome muscular resistance and so produce indrawing of the ribs. Jenner (1860) was unable to find this gap. Examination of a cadaver confirms his observation. The ribs and cartilages are clothed closely in muscular attachments, and the insertions of serratus magnus interdigitate most intimately with those of the external and internal oblique muscles. Moreover, the line of insertion of serratus magnus runs diagonally across the site of Harrison's grooves.

Jenner (1860) considered that the determining cause of the deformity was atmospheric pressure, aided by the elastic contractility of the lungs. He stated that if the thoracic wall were made of cast-iron the diaphragm would descend only so fast as the air could enter the lungs. If the chest wall were soft, or if there were obstruction to the entry of air into the lungs, recession of the wall would be expected to occur. This recession would occur at the most yielding part of the wall—that is, on either side of the sternum, at the costochondral junctions, and at the anterior ends of the ribs. The abdominal viscera would prevent the collapse of the lower ribs.

Herlitz (1945) states that he has observed hiccuping in infants, and that in them reaction of the chest wall occurs at the same site as Harrison's grooves. Hiccup is due to involuntary contraction of the diaphragm, which sucks in air so suddenly that the vocal cords are drawn together. After this the negative pressure in the thorax must become very great. If further proof of the role of non-expansion of the lung be needed, try the experiment of pinching a newborn baby's nose while its mouth is kept shut. Recession of the ribs at the site of Harrison's grooves then occurs. Dupuytren (1847) noted an association between the grooves and an enlargement of the tonsils in children at the breast, but the children he described seem to have been suffering also from rickets and bronchitis. Fisher (1906) noted the development of a unilateral groove in a child suffering from pulmonary collapse following measles.

Rogers-Harrison (1842) attributed the grooves to the habit of grasping infants tightly round the chest when lifting them. Rees (1850) thought that they were due to the infant's arms being folded across its chest and bound too tightly with swaddling-clothes. McGonigle (1931) stated that they were due to the abdominal enlargement which is found in rickets pressing the lower ribs outwards.

Jenner's reasoning does not adequately explain why Harrison's grooves should develop where they do. Recession of the chest wall, according to him, should occur along the line of the costal cartilages on either side of the sternum, but in fact this type of *vertical* groove is commonly seen only in severe rickets, when the anterior ends of the ribs and costal cartilages are softened by disease. There must be some other explanation to account for the extremely frequent development of the *transverse* Harrison's grooves. Here it is necessary to refer back to the theory of the muscular gap. Although no such gap exists, it is nevertheless true that at the site of Harrison's grooves there is a neutral zone between two parts of the thorax, each moving in a slightly different direction. Thus the upper ribs move upwards and forwards, rotating outwards, while the lower ribs move outwards and backwards, increasing the transverse diameter of the upper abdomen (Johnston, 1932). It would seem likely, therefore, that increased negative intrathoracic tension would tend to cause buckling in of the chest at the hinge between these two movements rather than anywhere else.

Method of Study

The present investigations were undertaken in order to provide some factual basis for discussion, and in the hope of stimulating thought and research in the future. The full results and the analysis are given in a work already published by one of us (J. Naish, 1947).

The following groups were studied : (1) 500 children selected at random from 23 primary schools in the City of Bristol ; (2) 25 children who were diagnosed as suffering from rickets eight years previously ; (3) 100 children attending a clinic for asthmatics ; and (4) 36 children suffering from congenital heart disease.

The depth of the grooves was measured with a home-made instrument, which was calibrated in fractions of an inch. This instrument was applied vertically to the chest at the site of the maximum depth of the groove. A light even pressure was used in order to avoid sinking the flat edges of the instrument into the skin. The width of the measuring blade prevented this from sinking into an intercostal space and so giving a false reading. Girls at about the age of puberty could not be examined because development of the breasts interferes with these measurements.

Control Group

The 500 children, whose ages ranged from 5 to 12, were examined at routine school inspections at 23 primary schools in the City of Bristol. The incidence of the grooves is given in Table I. Analysis of the full figures showed

TABLE I.—*Incidence of Harrison's Grooves in Control Group*

Harrison's Grooves	No. of Children	Percentage of Total
Absent	272	54·4
Unilateral	17*	3·4
Up to 3/16 in. (0.48 cm.) deep ..	177	35·4
3/16 in. or more deep	34	6·8
Total:	500	

* 13 (77%) of these were left-sided. This finding contrasts with the statement that the grooves are commoner on the right side (Holt, 1939).

that there was no significant difference of incidence between males and females or between separate age groups.

A full examination was possible in only 354 of the 500 cases ; in the rest (146), owing to the absence of the parents or some other cause, a satisfactory history could not be obtained. The incidence of grooves in the 354 children was not significantly different from that in the whole group (45.2% as against 45.6%).

Positive Results.—(1) Harrison's grooves occurred more often in those who had suffered from pneumonia in early life. (2) The association of the grooves with bronchitis, measles, and pertussis in early life was probable, but not statistically significant. (3) From the parents' statements it also seemed that grooves occurred more often in children who had suffered from greater degrees of upper respiratory disease (frequent colds or sore throats and ear disease) in infancy and early childhood, but this finding was not significant. (4) Grooves occurred with significant frequency in children with pigeon breasts, and in these children there was often other evidence of past rickets. (5) Grooves were found to be commoner in the children of poorer parents.

Negative Results.—(1) Breast-fed children were no less liable to develop Harrison's grooves than bottle-fed children. (2) Vitamin D fortification of diet in infancy did not reduce the incidence. (3) Neither present objective evidence of past rickets nor smallness of stature was associated with an increased incidence.

In addition the grooves occurred in a number of healthy children who had no history of previous disease.

The association with pneumonia is shown in Table II. The grooves occur more often and are deeper in those who have had pneumonia, especially during the first year of life or on more than one occasion. The results are significant.

TABLE II.—*Association of Harrison's Grooves with a History of Pneumonia*

Harrison's Grooves	No Pneumonia	Pneumonia Occurred			
		At 2 Years or Over	Between 1 and 2 Years	Below 1 Year	Twice or More
Absent ..	179	10	3	1	1
Unilateral ..	9	2	0	1	1
Up to 3/16 in. deep	107	5	2	3	7
3/16 in. or more deep	17	3	0	2	1
Totals: ..	312	20	5	7	10

The social and economic conditions of the 121 children selected at random were investigated by Miss E. C. Moynagh, lady almoner at the Bristol Royal Hospital. On the basis of the average weekly income of the household during the first two years of their lives, the children have been separated into two groups, with a dividing-line at 10s. per head. The results show that grooves are more common in poverty-stricken households (Table III). The difference is significant.

TABLE III.—*Association of Harrison's Grooves with Poverty*

Grooves	No. with Average Income Over 10s. per Week per Person	No. with Average Income Under 10s. per Week per Person
Absent ..	37 (59·6%)	18 (30·5%)
Present ..	25 (40·4%)	41 (69·5%)

Rickets

Dr. Corner (1944) recorded the cases of a large number of children who had been diagnosed as suffering from rickets eight years previously. She kindly allowed us to examine her records, and we chose 60 children in whom the evidence of rickets in infancy had been unequivocal. Only 25 mothers were able to bring their children for re-examination. This poor response was due chiefly to population movements during the war. The results are set out in Table IV. Of the 25 children examined 16 (64%)

TABLE IV.—*Evidence of Past Rickets Correlated with Depth of Harrison's Grooves*

Case No.	Age When Diagnosed (months)	Evidence of Rickets in Infancy in 1938					Depth of Harrison's Grooves in 1946
		Rib Beading		Craniotabes	Plasma Phosphatase (units/100 ml.)	Radiological Rickets	
		Minor	Marked				
1	11	—	—	—	23·5	Yes	Absent
2	2	Yes	—	—	23·5	—	,,
3	15	,,	—	—	13·5	Yes	,,
4	2	—	Yes	—	24·0	—	,,
5	5	—	—	Yes	19·5	—	,,
6	12	—	Yes	—	—	Yes	,,
7	3	Yes	—	—	30·0	—	,,
8	4	,,	—	—	18·0	—	,,
9	N.K.	—	—	—	—	—	,,
10	10	Yes	—	—	17·0	—	Minimal*
11	2	,,	—	—	21·5	Yes	Left unilateral
12	6	,,	—	—	18·0	—	Minimal*
13	1	,,	—	—	30·0	—	,,
14	12	,,	—	—	17·0	—	,,
15	3	—	Yes	—	22·0	—	,,
16	3	Yes	—	Yes	50·0	—	3/16 in. deep
17	2	,,	—	—	20·0	—	,, ,,
18	2	,,	—	Yes	80·0	—	,, ,,
19	19	,,	—	—	12·5	—	,, ,,
20	14	,,	—	—	78·0	Yes	,, ,,
21	2	—	Yes	—	13·0	—	,, ,,
22	4	Yes	—	—	25·0	—	1/8 in. ,,
23	8	,,	—	—	13·0	—	3/16 in. ,,
24	5	—	Yes	—	56·0	—	1/8 in. ,,
25	8	Yes	—	—	—	—	,, ,,

* Minimal = One side less than 1/8 in. (0·32 cm.) deep, but grooves present on both sides.

had grooves. A high proportion of those with deep grooves had shown either unequivocal clinical evidence of rickets in infancy or very high plasma phosphatase values, or else had been diagnosed after the age of 6 months.

In drawing conclusions from these findings it should be understood that treatment has probably modified the course of the disease, particularly where the diagnosis was made early. There are two unknown factors in each case: (1) the duration of rickets before diagnosis, and (2) the extent of bone-softening before treatment was instituted. It is tempting to postulate that the children with the highest plasma phosphatase values are those with the greatest degree of bone-softening. This is supported by the results in Table IV, but the number of children examined was too small for significant results to be obtained.

Asthma

We examined 100 children at the Bristol Children's Hospital in 1946. All were suffering from chronic bronchial asthma and were attending a special clinic under the care of Dr. Corner. There were 65 boys and 35 girls, whose ages ranged from 3 to 13. Of these 79% had Harrison's grooves, and 36% had grooves at least 3/16 in. (0.48 cm.) deep. There is a significant difference, therefore, between the incidence in this group and that in the control group. Deep grooves occurred more often in children in whom asthma developed early in life, but the difference in incidence is not significant. There was, however, a significant association between the occurrence and depth of the grooves and the duration of the asthma. This is shown in Table V. A history of pneumonia had no influence on the incidence of the grooves in these children.

TABLE V.—*Harrison's Grooves and Duration of Asthma*

Grooves	Duration of Asthma Less than 4 Years	Duration of Asthma 4 Years and Over
Absent	15	6
Less than 3/16 in. deep ..	18	25
3/16 in. or more deep ..	3	33
Totals: ..	36	64

(*Note*: We have been unable to gain access to the paper written by J. Brock in 1942 entitled "Uber Pseudorachitis Asthmatica.")

Congenital Heart Disease

A. E. Naish (1945) records eight cases of congenital heart disease seen in infancy with marked inspiratory indrawing of the lower intercostal spaces. There was no evidence of rickets or upper respiratory obstruction in these children, and in only one was the heart grossly enlarged. He told us that five of them were observed for three years, and in that time three died and two developed Harrison's grooves.

We examined 36 unselected children with congenital heart disease attending Prof. C. Bruce Perry's cardiac clinic at the Bristol Royal Infirmary. The results are shown in Table VI. The numbers in each group are too small to be analysed separately, but the incidence of grooves in cases other than those of apparently uncomplicated pulmonary stenoses and of patent interventricular septa was significantly greater than in the control group.

TABLE VI.—*Harrison's Grooves in Congenital Heart Disease*

Grooves	Controls	Pulmonary Stenosis or Patent Interventricular Septum	Other Congenital Heart Disease
Absent	272	11	2
Present	228	12*	11*

*Including three cases in infancy with marked indrawing of lower intercostal spaces at the usual site for Harrison's grooves.

Summary and Conclusions

Reference is made to the original description of lateral thoracic grooves by Edwin Harrison.

Theories as to their causation are summarized. The theory that the grooves are caused by the insertions of the diaphragm has been disproved several times and should be abandoned.

A study was made of a sample of 500 Bristol schoolchildren, 25 cases of past rickets, 100 cases of asthma, and 36 cases of congenital heart disease.

Harrison's grooves occurred in 45.6% of normal schoolchildren between the ages of 5 and 12 years. Grooves at least 3/16 in. deep were present in 6.8%. The grooves were often found in children known to have had severe rickets in infancy; on the other hand, in milder cases or cases diagnosed and treated early their incidence was not different from the normal. They occurred very frequently in children with the deformity known as pigeon breast, which is almost certainly due to severe rickets. In these children vertical grooves on either side of the sternum are often also present. Whistler (1645) noted: "At first the sternum is depressed, but as the disease progresses it projects." The conclusions reached by Dalyell and Mackay (1923) that Harrison's sulcus is valueless as an early sign of rickets has been borne out by this study; while the older observations that the grooves develop (frequently in association with a pigeon breast) in severe rickets has been substantiated.

The grooves occurred more often in children who had had pneumonia, particularly if they had suffered from the disease in the first two years of life. They also occurred frequently in children who had had bronchitis, measles, pertussis, or severe upper respiratory infections in early life, but the statistical significance of these findings could not be proved. The heaviest incidence was in children suffering from asthma, and the longer the asthma had persisted the more likely were the grooves to be present.

These results seem to support the suggestion that the most important factor in the production of Harrison's grooves is deficient expansion of the lungs.

Grooves were also frequently found in children with severe grades of congenital heart disease. The explanation of this is not clear. Sheldon's (1938) suggestion that the probable cause of indrawing of the intercostal spaces is pulmonary atelectasis occurring as a complication of the heart disease seems to fit in with the known facts, but this has not been confirmed.

We wish to express our gratitude to Prof. C. Bruce Perry for his help and advice during this investigation; to Dr. Beryl Corner for allowing us access to her cases and records; and to Miss E. C. Moynagh for her work on the social and economic conditions of some of our cases. We would also like to thank Dr. J. Brierley for advice on anatomical considerations, Dr. George Smart for assistance with statistical calculations, and Mr. G. F. Home, librarian of the Royal Society of Medicine, for helping us to find Harrison's original description.

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"MYANESIN" AS A RELAXANT IN CHILDREN

BY

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α : β : dihydroxy-γ-(2-methylphenoxy)-propane ("myanesin," British Drug Houses Limited) is obtainable in 10-ml. ampoules of a 10% solution. Its use as a relaxant in anaesthesia was first described by Mallinson (1947), and its pharmacology has been discussed by Berger and Bradley (1947). Unlike curare, myanesin does not appear to interfere with voluntary movements, but only with spinal reflexes, and therefore, presumably, with muscle tone. It may be suggested that its site of action is the internuncial neurones, which might account for the fact that respiration is not inhibited for long periods. Toxicity is low.

Myanesin has been used by me since February, 1947. In adults its action was not so marked as that of curare, and it was enhanced by ether and by thiopentone, while its effect was minimal when only nitrous oxide or cyclopropane was the anaesthetic used. Further, although abdominal relaxation might occur, laryngeal spasm was not prevented. It therefore seems that its use in adult surgery is limited, although it may be of value in cases in which the respiratory depression caused by curare may be a source of alarm.

Relaxation may be obtained for abdominal surgery in infants by a number of methods. Deep ether anaesthesia is open to obvious dangers; local analgesia is time-consuming, and comparatively large doses of the agent may be needed, and even then relaxation may not be perfect; spinal analgesia, while being unsuitable psychologically for children over 2 years of age, is difficult to give to younger infants, and there are obvious hazards associated with it. Curare, in my hands, has given good relaxation, but has always been associated with profound respiratory depression. This may be serious in the infant, owing to the difficulty of controlling it: closed and semiclosed methods of anaesthesia are contraindicated on account of the "dead-space," while without endotracheal intubation it is almost impossible to inflate the lungs and not distend the stomach. It is questionable whether intubation, with consequent narrowing of the glottis, is advisable in very small infants.

Myanesin was administered to 44 children between the ages of 24 days and 4½ years. The results have been satisfactory. In all cases maintenance of anaesthesia was with open ether, induction being with ether, nitrous oxide, or ethyl chloride. There were 16 cases of intussusception, 16 of pyloric stenosis, and 12 of appendicitis, with or without peritonitis. Anaesthesia was maintained in first plane, third stage; in cases lasting up to 20 minutes it was found that one dose of myanesin sufficed, and that no more ether was required after the peritoneum had been opened. Recovery was extremely rapid, and the post-operative condition was always better than would have been expected had other means been employed. Respiratory depression lasting 15 to 30 seconds occurred in one-third of the cases; in one case respirations were completely inhibited for nearly half a minute. After the initial depression the tidal air assumed normal proportions. There were no obvious changes in pulse rate, although blood pressures were not taken. There were no deaths during operation, but two occurred after operation, in neither case ascribable to myanesin. Relaxation came on rapidly and was good for 10 to 25 minutes after injection, its extent being sometimes obscured by pre-existing distension of the bowel. Clinically, no effect upon bowel movements or tone could be seen.

The injection of myanesin was made into the intravenous drip, if one were set up, or into the longitudinal sinus at the posterior angle of the anterior fontanelle, for at this point the sinus is wider than in front and the approaching edges of bone direct the needle automatically into the vein. Blood is aspirated before injection, but it is unlikely that intrathecal injection would be dangerous. The dose was in the order of 2 ml. per stone (6.35 kg.) of body weight.

The following cases, selected from the series, illustrate the dosage and effect of myanesin in children.

Case Reports

Case 1.—Pyloric stenosis. Aged 24 days. Weight 9 lb. 3 oz. (4.17 kg.). General condition good. Rammstedt's operation. Induction and maintenance with open ether. Myanesin 1.5 ml. into the longitudinal sinus at six minutes. Slight respiratory depression for 30 seconds. Relaxation excellent and still present at the conclusion of operation at 26 minutes. Child began to cry as the last suture was inserted. No ether had been given after the peritoneum was opened. Recovery uneventful.

Case 2.—Pyloric stenosis. Aged 4 weeks. Rammstedt's operation. Induction and maintenance with open ether. Myanesin 1 ml. at eight minutes. Operation concluded at 19 minutes. Relaxation good. No respiratory depression. Recovery uneventful.

Case 3.—Pyloric stenosis. Aged 6 weeks. Weight, 7 lb. 2 oz. (3.23 kg.). Rammstedt's operation. Induction with open ether, maintenance with ether–oxygen endotracheally with Ayre's T-piece. Myanesin 0.75 ml. at five minutes. Operation concluded at 19 minutes. Relaxation poor at first (? underdosage), although there was slight respiratory depression for 15 seconds. Relaxation good during closure. Recovery uneventful.

Case 4.—Pyloric stenosis. Aged 8 weeks. Rammstedt's operation. Induction and maintenance with open ether. Myanesin 1.5 ml. into the longitudinal sinus at seven minutes. Operation concluded at 20 minutes. Relaxation excellent. Respirations completely inhibited for 20 seconds after myanesin had been given. This inhibition of respiration caused some alarm while it lasted, but there was no change in colour. When respiration was resumed it was at first rather shallow, but it became normal after a further 30 seconds. Recovery uneventful.

Case 5.—Intussusception. Aged 3 months. Weight, 11 lb. 5 oz. (5.13 kg.). Induction and maintenance with open ether. Myanesin 3 ml. at five minutes. Operation concluded at 27 minutes. No respiratory depression. Relaxation good; reduction of the intussusception intraperitoneally. Recovery uneventful.

Case 6.—Intussusception of three days' standing. Aged 4 months. Weight, 10 lb. 10 oz. (4.82 kg.). General condition fair. Intravenous drip (plasma) set up two hours before operation. Induction and maintenance with open ether. Myanesin 1.5 ml. was administered at seven minutes, with slight respiratory

depression for 30 seconds. Intraperitoneal reduction of the intussusception was impossible and resection of a portion of the gut with end-to-end anastomosis was undertaken. At 38 minutes a further dose of 1 ml. was administered. Operation was concluded at 57 minutes. Only small quantities of ether were employed from time to time to maintain anaesthesia in the first plane, and the child started to cry while the skin was being sutured. Death occurred five hours later.

Case 7.—Intussusception. Aged 7½ months. Weight, 19 lb. (8.62 kg.). Induction and maintenance with open ether. Myanesin 2 ml. into the longitudinal sinus at six minutes. There was slight respiratory depression for five minutes. Operation concluded at 14 minutes. No ether was administered after the myanesin had been given. Relaxation was excellent. Recovery uneventful.

Case 8.—Intussusception. Aged 11 months. Weight, 18 lb. 8 oz. (8.39 kg.). Induction and maintenance with open ether. Myanesin 2 ml. at 13 minutes into the longitudinal sinus. Operation concluded at 33 minutes. No ether administered after the peritoneum was opened. Relaxation was excellent. Recovery uneventful.

Case 9.—Appendix abscess for 48 hours. Aged 1 year 10 months. General condition bad. Induction and maintenance with open ether. Myanesin 3.5 ml. into the intravenous drip saline at two minutes, and a further dose of 1.2 ml. at 16 minutes. Operation concluded at 32 minutes. There was no respiratory depression, but relaxation was not quite so good as usual. Death occurred from peritonitis on the fifth day.

Case 10.—Appendicitis. Aged 3 years 11 months. Induction with ethyl chloride, maintenance with open ether. Myanesin 5 ml. at three minutes. Operation concluded at 16 minutes. There was no respiratory depression. No ether was administered after the peritoneum was opened. Relaxation was good. Recovery was uneventful.

Case 11.—Appendicitis with abscess. Aged 4 years 6 months. Temperature, 103° F. (39.4° C.). Pulse, 150 before operation. Induction with nitrous oxide, maintenance with open ether. Myanesin 3 ml. at three minutes and 1.5 ml. at 23 minutes. Operation concluded at 33 minutes. Small quantities of ether were required from time to time. There was no alteration in the pulse rate during operation and no respiratory depression. Relaxation was good. Recovery uneventful.

The 44 cases to which myanesin was administered were unselected. The results achieved seem to indicate that relaxation in infants can be obtained with greater ease and safety with myanesin than with any method previously employed. The lack of anxiety which was felt during operation, even about patients gravely ill, is a fair measure of the success obtained with this drug.

Summary

Various methods of obtaining relaxation in children not having proved entirely satisfactory, myanesin was used with success in 44 cases. There were no deaths or post-operative complications attributable to it, in spite of the serious general condition of some of the patients. Relaxation was good and of a sufficient duration to render a second dose unnecessary, save when the operation was somewhat prolonged.

The technique of administration is described, and the dosage employed in eleven cases is given in detail.

Anaesthesia was maintained in every case with ether, and it was usual to find that little or none was required after the myanesin had been introduced.

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TREATMENT OF GOLD DERMATITIS BY BAL

BY

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The use of BAL (2,3-dimercaptopropanol) in the treatment of gold dermatitis has been reported on in this country by Peters *et al.* (1947) and by Slot and McDonald (1947), and in the U.S.A. by Cohen, Goldman, and Dubbs (1947), by Ragan and Boots (1947), and by Lockie, Norcross, and George (1947). Its efficacy seems to be due to its ability to form relatively stable ring compounds with gold salts, thereby diminishing the reaction with the tissues and increasing urinary excretion from the system (Peters *et al.*, 1947). The following account is of its action on two cases of gold dermatitis seen recently.

Preparation and Mode of Administration.—The preparation used was 5% BAL in arachis oil, with 10% benzyl benzoate. It was administered by deep intramuscular injection into the buttock or thigh. The site of injection was subjected to light massage for a few minutes afterwards, as it was thought that this might diminish any pain and tenderness and possibly lessen the danger of inflammation and abscess formation. The dosage was 2 ml. four times on the first day, 2 ml. thrice daily for three days, 2 ml. once daily for nine days, and thereafter 2 ml. every alternate day.

Case 1

A lorry driver aged 45 had suffered from rheumatoid arthritis over a period of fifteen years. In 1942 he was given a series of gold injections (preparation and total amount prescribed unknown). After 12 injections the course had to be stopped because of the development of a rash involving both axillae, perineal and scrotal areas, legs, and trunk. He at the same time had what appears to have been a severe stomatitis. There was apparently no amelioration of the rheumatoid arthritis.

A second course of 16 injections of "myocrisin," totalling 0.985 g., was given between May 20 and Sept. 30, 1947. There was apparently a marked improvement in his primary condition, the E.S.R. falling from 123 mm. to 28 mm. in the hour (Westergren), but the patient himself noticed little change in the pain or the disability. On Oct. 7 (one week after finishing his course) a rash appeared, and on Oct. 21 he was admitted to the Royal National Hospital for Rheumatic Diseases, Bath.

On admission he was a typical case of long-standing rheumatoid arthritis, with an extensive exfoliative dermatitis of seborrhoeic type involving almost the whole body, being particularly severe on the scrotum and in the axillae. There was oozing in the scrotal area, and generalized itching which caused great discomfort. BAL therapy was started on Nov. 10 and discontinued on Nov. 21. A total of 32 ml. was given. On Nov. 18 an area of inflammation (redness, heat, pain, and induration) developed in the right buttock at the site of an injection. This resolved after treatment with local heat and parenteral penicillin. There were no other complications. No amelioration of symptoms occurred until the sixth day after the beginning of treatment, when the itching stopped and it was noticed that the dermatitis was improving.

The patient continued to improve, and on Dec. 8 the rash had almost completely disappeared, only pale pink discoloured areas in various places remaining. He noticed no change in the condition of the arthritis. Corrected suspension stability by the method of Collins *et al.* (1939) was 82% in the first hour at the beginning of treatment and 59% in the first hour on Dec. 8.

Case 2

A miner aged 43 gave a history of typical rheumatoid arthritis dating from January, 1946. He was first admitted to this hospital on Nov. 12, 1946, when he was treated by

rest, physiotherapy, balneotherapy, and myocrisin. Ten injections of myocrisin were given whilst he was an in-patient, and the course was to be completed by his private doctor after discharge. Immediately after the twelfth injection, in February, 1947, he developed a massive generalized exfoliative dermatitis involving almost the whole of his skin surface. The total dosage of myocrisin given by then was 0.86 g. He was readmitted to hospital on June 3, when it was found that there had been a dramatic improvement in his arthritis; he now had no obvious manifestations of the disease, and the corrected suspension stability had improved from 58% in the first hour on the previous admission to 92%. However, a generalized exfoliative dermatitis involved the whole of his body, including scalp and face, associated with severe itching.

He was admitted for the third time on Oct. 21, when his general condition was found to be unchanged. His dermatitis had become more chronic: very little skin surface was not involved, and there were large areas of induration, especially over parts subject to pressure and where he had scratched himself. BAL therapy was started on Oct. 24 and concluded on Nov. 21, a total of 56 ml. having been given. There was no marked improvement until Oct. 30, when the itching ceased completely and the exfoliation was noticed to be less severe. The condition steadily improved, the rash gradually disappearing and the areas of induration becoming softer. On Dec. 1 only pinkish discoloured patches remained, and these were confined to those parts where the dermatitis had been most severe and the induration maximal. There were no complications during the treatment. Corrected suspension stability in the first hour was 83% at the beginning of treatment and 88% on Nov. 28.

Discussion

In these two cases the effect of BAL on gold dermatitis was dramatic. This was particularly so in Case 2, in which the condition was very severe and had existed for nine months before treatment was started. No other case of over three months' standing relieved by BAL can be found in the literature, and in one case of three months' standing the dermatitis proved resistant to BAL (Ragan and Boots, 1947).

The occurrence of inflammation at the site of injection is of interest. Similar complications have been reported (Lockie, Norcross, and George, 1947), but in view of the striking relief of symptoms it is not felt that this is an indication for stopping treatment.

An interesting point emerging from both these cases is the time interval of six days after institution of treatment before improvement began. No such regular period has been noted in other reports.

Frequent blood counts, corrected suspension stability estimations, and urine examinations were done, but no significant change was noticed during the course of treatment. There were no complications except the inflammatory reaction in the buttock already described.

Ragan and Boots (1947) suggest that after relief of dermatitis by BAL, symptoms of rheumatoid arthritis previously improved by aurotherapy might recur within a month. No such change has yet been noted in these two cases. Both have now been under review for four weeks. In Case 1 the fall in corrected suspension stability after treatment was stopped was not considered significant from this point of view, because of the associated inflammatory complication.

Summary

Two cases of dermatitis due to aurotherapy treated by BAL are described, one of a more chronic type than any so far described in the literature.

The type of preparation of BAL and its method of administration are detailed.

The complications are discussed.

The return of symptoms of rheumatoid arthritis after therapy has not been noted in these cases.

The same time interval of six days between institution of treatment and relief of symptoms occurred in both cases.

I should like to express my thanks to Dr. J. B. Bennett for kindly allowing me to treat these cases, and to Dr. G. D. Kersley and Dr. H. J. Gibson for their encouragement and help in preparing this paper.

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"AMELLIN" FOR DIABETES

BY

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"Amellin," an extract of *Scoparia dulcis* (broom), has been claimed by Nath[1-7] to have an important therapeutic action in diabetes. A critical study of his papers gives no clear evidence of this; indeed, the reasoning is so widely divergent from current views on carbohydrate metabolism as to be an argument against his thesis. However, since amellin appears to have inspired some credence in India it seemed desirable to give it a trial.

In two cases this was done, and the results, after careful investigation, show no effect of this substance on diabetes. Some details are here recorded of one case without and another with insulin. Both patients were supplied with a mixture of amellin, calcium gluconate, and lactose, and were instructed to take a measured 5-gr. (0.32-g.) dose by mouth thrice daily for three months.

Case 1.—A factory worker aged 57 was found to have diabetes in May, 1946, but before this trial had received no treatment other than restriction of his daily carbohydrate to 180 g. The blood sugar had gradually fallen from 348 mg. per 100 ml. at the onset to 144 mg. per 100 ml. in November, 1946. Thereafter his diabetes became progressively worse, so that heavy glycosuria and hyperglycaemia (blood sugar, 252 mg.) were constant by July 2, 1947. Insulin was obviously necessary at this stage, but was withheld in order to test amellin. After three months of treatment with this drug his weight had fallen by 1½ lb. (680 g.), traces of ketone bodies accompanied his glycosuria, and the blood sugar was 348 mg. per 100 ml. His general health had declined to a state comparable to that at the onset of his disease. When protamine-zinc-insulin, only 16 units daily, replaced amellin, his weight rose by 3½ lb. (1.59 kg.), the urine became sugar-free, and the blood sugar four hours after breakfast was 206 mg. per 100 ml., while his general health showed the usual improvement.

Case 2.—A Civil Servant aged 47, who in the course of a routine medical examination in 1938 was found to have diabetes, had since the inception of treatment kept detailed records of his tests and progress. When amellin was begun on June 2, 1947, his urine contained large amounts of sugar by reason of his low renal threshold, but ketones were absent and the blood sugar five hours after his single mixed daily dose of 24 units of protamine-zinc with 12 units of soluble insulin was only 46 mg. per 100 ml. The soluble insulin was reduced by 4 units and amellin started with no alteration in his daily carbohydrate. On Sept. 3, 1947, after three months of amellin, the urine showed traces of ketone bodies with heavy glycosuria, the blood sugar four hours after insulin was 125 mg. per 100 ml., and his weight had fallen by 7 lb. (3.18 kg.). His previous records

showed comparable variations, and it was obvious that amellin had not made the slightest difference to the closely studied pattern of his progress.

This test was undertaken on the suggestion of Dr. R. D. Lawrence and Prof. F. G. Young at the request of the Medical Research Council and the (then) India Office. Acknowledgment is due to Prof. M. C. Nath for his kindness in supplying a sample of amellin for the test.

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THE PRE-ERYTHROCYTIC STAGE OF HUMAN MALARIA, PLASMODIUM VIVAX

BY

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In the issue of *Nature* dated Jan. 24, 1948, Shortt and Garnham reported the finding of pre-erythrocytic forms of *Plasmodium cynomolgi* in the liver of *Macaca mulatta*. A more detailed description of the appearance of these parasites, as seen on the sixth and seventh days of the incubation period, was given later by Shortt, Garnham, and Malamos (1948). *P. cynomolgi* being so closely similar in its morphology and life-cycle to *P. vivax* of man, it was reasonable to infer that, at a corresponding stage of the incubation period of an infection the pre-erythrocytic stage would also closely resemble that of *P. cynomolgi*.

The affiliation to the London School of Hygiene and Tropical Medicine of the Ministry of Health's Malaria Laboratory at the Horton Hospital for Mental Diseases, Epsom, where malarial treatment of general paralysis is carried out as a routine, supplied the means of verifying this supposition, and suitable arrangements were made through Dr. G. Macdonald, Chairman of the Tropical Course Sub-committee of the Council of the London School of Hygiene and Tropical Medicine. As there was at the time no suitable patient about to undergo this treatment at Horton Hospital, we applied to the Bucks County Mental Hospital, Aylesbury. The superintendent, Dr. J. S. I. Skottowe, who had a patient requiring malarial infection by mosquito-bites, was glad to co-operate with us, and transferred the patient to Horton for treatment, at the same time obtaining his consent and that of his wife to the performance of a biopsy on the liver during the incubation period of the infection.

Infection of the patient was effected by feeding upon him, on two successive days, a large number of *Anopheles maculipennis atroparvus* mosquitoes infected with *P. vivax* and by the intravenous inoculation of isolated salivary glands of a certain number of the same mosquitoes. Seven days after the first feeding by mosquitoes a biopsy was performed on the liver under local analgesia by Mr. E. J. Radley Smith. The material, when examined in sections, revealed the presence of plasmodial masses studded with chromatin particles very similar in appearance to those previously seen in the case of infection of the monkey with *P. cynomolgi*. The forms seen measured up to 42μ in diameter and showed in some instances the vacuoles noted in the case of *P cynomolgi*.

There seems no doubt that these bodies are the pre-erythrocytic forms of *P. vivax* in man. The material in our possession is being studied and further observations will be communicated when completed.

In recording this finding we wish to express our indebtedness to Dr. Skottowe for his help in obtaining a suitable patient requiring treatment by mosquito-induced malaria; to Dr. W. D. Nicol, superintendent, Horton Hospital, for admitting this patient and for making all the arrangements for our investigation; and to Mr. E. J. Radley Smith, who performed the biopsy of the liver. The technical operations connected with this investigation were most efficiently carried out by Messrs. W. Cooper and E. Blackie, and Misses Wall, Stedman, and Maryon.

REFERENCE

Shortt, H. E., Garnham, P. C. C., and Malamos, B. (1948). *British Medical Journal*, **1**, 192.

Medical Memoranda

Allergy to Penicillin

The personal experiences outlined in the following case report may be found of interest.

CASE HISTORY

The patient, a general practitioner aged 34, had a personal and family history of migraine, and a family but not personal history of hay-fever. On May 8, 1947, he fractured the neck of the femur. Open reduction was carried out under general anaesthesia on May 12, and reduction in imperfect position was maintained by a Smith-Petersen "pin." Convalescence was interrupted by 20 to 25 stitch abscesses between June 1 and Sept. 1. A keloid scar developed. He had a fixed flexion of 35–40 degrees and a nocturnal pyrexia of 99.8° F. (37.7° C.) throughout. There was a leucocytosis of only 10,650. On Oct. 10 radiographs gave no evidence of bony union, and the condition was unaltered. Comparative radiographs showed possible bone abscess in the great trochanter. The "pin" had not shifted. From Oct. 21 to 25 inclusive he was given 500,000 units of penicillin intramuscularly three times a day (total 7,500,000 units). There was no history of previous penicillin therapy.

The immediate results of penicillin therapy were: pyrexia abolished, fixed flexion reduced to 10 degrees, regression of keloid scar, great diminution of pain, and general condition much improved. There was no change in this encouraging state (except that a radiograph on Nov. 11 showed the first sign of callus) until Nov. 12 (17 days after cessation of penicillin therapy), when he was awakened at 4 a.m. by irritation of the left eyelid. During the day general simple urticaria developed, with lesions up to 4 cm. square. Next day the condition was the same. Very little of the body was unaffected. "Benadryl" in full dosage was given without benefit. The temperature was 99.6° F. (37.55° C.), and the pulse 100. On the 14th the swelling was less of the cutaneous and more of the subcutaneous tissues ("angioneurotic oedema" or Quincke's disease). Adrenaline hydrochloride in doses of 5, 5, 8, 10, 10, and 15 min. (0.3, 0.3, 0.5, 0.6, 0.6, and 0.9 ml.) was given at intervals, with no benefit. The temperature was 99.8° F. (37.7° C.), and the pulse 90–110. Two "antistin" tablets were given thrice daily on the 15th and 16th, with no benefit. Oliguria and dysuria were present.

On the 17th periarticular swelling of various joints (large and small) occurred. Each lesion lasted about 36 hours after a precipitate onset. No benefit was derived from 1/2 oz. (14 ml.) mist. sod. salicyl. two-hourly. The temperature was 99.2° F. (37.3° C.), and the pulse 90. He had epigastric discomfort and diarrhoea. "Anthisan" was tried without effect.

In addition intermittent oedema of fauces, glottis, and tongue occurred from Nov. 18 to 21, and from the 19th to the 24th asthma and paroxysmal rhinorrhoea occurred intermittently by day and night. This was relieved by ephedrine 1 gr. (65 mg.), by mouth. He had considerable pain in the hands and feet and severe pruritus all over the body, especially on a change of temperature. His temperature was still 99.2° F. The pulse was steady except during asthma.

In view of dermographism and the obviously "vascular-permeability" nature of the residual symptoms a course of 20 mg. of vitamin K (synthetic) twice daily was started on Nov. 28. Whether by coincidence or not, the pruritus ceased immediately and there were no further joint lesions.

I would like to thank Sir Arnold Stott and Dr. P. J. W. Milligan for their care and sympathy during the above troubles.

R. A. SHAWYER, B.M., B.Ch.

Reviews

DANCE OF THE GENES

Genetics, Medicine and Man. By H. J. Muller, C. C. Little, and Laurence H. Snyder. (Pp. 158; illustrated $2.25 or 12s. 6d.) New York: Cornell University Press. London: Geoffrey Cumberlege (Oxford University Press). 1947.

The material of this book originally consisted of six Messenger Lectures on the evolution of civilization delivered at Cornell University in 1945. The Messenger Lectureship was founded to provide an annual course for the special purpose of raising the moral standard of American political, business, and social life. Although it is somewhat difficult, after reading this book, to imagine how the lectures can directly serve such praiseworthy purposes, they nevertheless must have been both enjoyable and instructive. Three geneticists, each outstanding in his own field, delivered them to a general audience, giving an account of the fundamental principles of genetics, parental influence and the growth of individuality, and the special genetics of man.

Prof. H. J. Muller, simple yet meticulously accurate in statement, presents an account of genetic fact and modern theory. It is doubtful whether anyone who is not already acquainted with the subject-matter of a more pedestrian textbook of genetics would be able to appreciate fully the significance of what Prof. Muller has to say, but those who know the elementary principles of the subject will find most attractive his account of the nature of the genetic material, the nature of the genetic effects of mutations, the gene and the origin of life, the dance of the genes, and gene equilibria in populations. Dr. C. C. Little, Director of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, recently completely destroyed by fire, draws deeply on his experience as a geneticist working on the mouse. He enjoys unique facilities and uses them to bridge the gap between formal genetics and the processes of development, linking genetics with both physiology and psychology. In his second lecture Dr. Little discusses problems of growth, normal and abnormal, and individuality, in so far as genetic factors influence them. Prof. Snyder in his two lectures presents an astonishingly comprehensive account of the special genetics of man, which must be of particular interest to all who practise medicine. There has been no better short statement of the main facts of human genetics than this.

F. A. E. CREW.

CLINICAL CHEMISTRY

Quantitative Clinical Chemistry Interpretations. By John P. Peters, M.D., M.A., and Donald D. Van Slyke, Ph.D., Sc.D. Volume I. Second edition. Part I. (Pp. 1042. 38s. 6d.) London: Baillière, Tindall and Cox. 1946.

The rapid progress of clinical chemistry imposes a Herculean task upon the authors of such a standard work as this. The first edition appeared in 1931, and by 1937 they decided that the production of a second edition was the only alternative to the book becoming obsolete. They have had wholly to rewrite the text, and to subdivide "Interpretations" into two volumes. In this, the first of these two volumes, they consider the overall energy exchanges and the metabolism of the three major foodstuffs—carbohydrates, lipids, and proteins; in the second they will be concerned with plasma proteins, water, and inorganic elements. They have retained the excellent bibliography embodied in the first edition and brought it thoroughly up to date. In each section the authors first discuss the chemistry and physiology of the substance in question, and then the application of this knowledge to clinical medicine. No better work of reference could be desired by the physician interested in the diseases of metabolism, and an excellent index facilitates use. The authors have fully maintained the high standard that they set themselves in the first edition, and one can only regret that this edition, like its predecessor, will also become obsolete and may not again be re-edited by the same authors.

O. L. V. DE WESSELOW.

HEROIC SURGERY

Radical Surgery in Advanced Abdominal Cancer. By Alexander Brunschwig, M.D. (Pp. 324; 118 figures. 42s.) U.S.A.: University of Chicago Press. Great Britain and Ireland: Cambridge University Press. 1947.

This book contains the detailed account of the operations performed upon a series of 100 patients suffering from advanced cancer of one or more of the abdominal viscera. After perusing the book everyone will agree that Dr. Brunschwig is a bold, skilful, courageous, and optimistic surgeon. As the author says in the foreword, such heroic surgery would not have been possible without modern aids—blood transfusion, skilled anaesthesia (he favours continuous spinal), the maintenance of fluid and nitrogen balance, and chemotherapy. The fourth chapter, in which he discusses these supportive measures, is worth special study. The author does not allow the idea of prognosis to affect his definition of "operable." He defines an operable neoplasm as "one that can be excised regardless of where or how much spread has developed." Here of course we are on debatable ground, for decision to excise depends so much upon the experience, skill, and judgment of the individual surgeon. It is quite likely that many surgeons would have deemed some of these cases inoperable, certainly the one which led to the most extensive operation of all, in which were excised the whole of the stomach, much of the left lobe of the liver, the spleen, the body and tail of the pancreas, the transverse colon, nearly all the omentum, most of the left upper quadrant of the abdominal wall, and some of the retroperitoneal tissues. The author states that the patient (a young man of 28) was quite comfortable for several weeks, but he died two months after operation. The impression made upon the reader's mind is similar to that which he experiences when first he reads of the charge at Balaclava. The results appear to justify this extensive surgery. Though of the 100 patients 34 died as the result of the operation and 17 obtained no palliation, yet 30 were distinctly relieved and 19 survived in good condition for varying periods; 13 were still living (at the time of publication), with an average period of survival of 40 months.

The author frequently mentions the work of other surgeons in the text, but gives no definite references; this detracts from the value of the book to other surgeons. Moreover, we were surprised not to see anywhere a reference to the extensive and dramatic operations performed by Gordon-Taylor and by Grey Turner, who have both done pioneer work of this kind. Most of these operations would be possible only in the hands of a very experienced surgeon, and we would earnestly caution the young surgeon not to attempt the heroic before he has graduated successfully in the hard school of routine major surgery of the abdomen. For the experienced surgeon this book will be a stimulus and an encouragement.

V. ZACHARY COPE.

RECENT GYNAECOLOGY

Progress in Gynecology. Edited by Joe V. Meigs, M.D., and S. H. Sturgis, M.D. (Pp. 552; illustrated. 35s.) London: William Heinemann (Medical Books), Ltd. 1947.

Dr. Joe V. Meigs and Dr. S. H. Sturgis have published this up-to-date account of recent work in gynaecology for the special requirements of those ex-Service doctors who were unable to read the literature during the war. They asked individual American specialists to write chapters on subjects which were their particular interest in the specialty. The contributors represent a "Ministry of All the Talents" in American gynaecology; the high quality of their work is most impressive and the book as a whole is outstanding. Almost without exception each chapter is full of information concisely arranged and clearly expressed.

Schiller's article is particularly noteworthy for depth of thought and his discussion of biological progress and experiment. John Rock writes on "The Causes and Relief of Infertility" with that peculiar, graceful condensed style which is unrivalled in the prose writings on gynaecology, and of which the author tells me he is quite unconscious. Similarly, Edward Davis's chapter on "The Gonadotrophins in Gynaecology" is excellent, as is that by Reifenstein on "The Relation of the Adrenal Cortex to Gynaecology." Dr. Meigs himself has

written on enterocele and on Wertheim's operation, the latter article being particularly important because of his observations on the blood supply to the ureter.

One criticism which has been expressed is that the contributors are too restricted to the neighbourhood of Boston and New York. Hamblen's article alone is insufficient to cover the whole subject of functional uterine haemorrhage, and some of his views are by no means generally accepted. Counsellor's article on the treatment of vesico-vaginal and other pelvic fistulas is too short, although it is well concentrated. The elaboration of Taussig's operation, though well described, is perhaps not theoretically sound; nevertheless, Nathanson's description is beautifully written and illustrated. With the possible exception of Neuweiler's *Gynäkologische Diagnostik* this book is perhaps the most important on gynaecology in the last ten years. It can be read with enjoyment, and every paragraph contains some useful information. Marlowe's "infinite riches in a little room" is perhaps an apt description.

WILFRED SHAW.

CHILDREN'S DISEASES

Diseases of Children. Edited by Donald Paterson, M.D., F.R.C.P. and Alan Moncrieff, M.D., F.R.C.P. Volume I. With contributions by 29 contributors. Fourth edition. (Pp. 771; illustrated. 30s.) London: Edward Arnold and Co. 1947.

The fourth edition of Garrod, Batten, and Thursfield's famous textbook is in many respects a new book. Not only has it lost its last link with the original editors, but many of the contributors are newcomers since the last edition was published in 1934. It has changed its format by dichotomy, and owing to the post-war difficulties of reproduction and delivery the second twin is likely to be born many months later than the first. This volume is a handsome child, of which the two parents and twenty-seven godparents can feel that the prospects of survival are excellent. When we come to examine its internal structure, we still find some of the familiar landmarks—for example, the opening chapter on heredity—but the first part ("General Considerations") is rather a hotchpotch. The account of vital statistics, growth and development, and feeding appear here logically enough, but those of treatment of talipes, hare-lip, and undescended testicle seem out of place in such company. There is a useful section on water and electrolyte control summarizing much of Gamble's work, and others on practical procedures, drug therapy, clinical pathology, and anaesthetics.

The second part ("Diseases of Children") is presented in a more orthodox way and is arranged under systems, though the newborn baby, nutrition, metabolism, allergy, and tuberculosis are separately considered. There is some overlapping between the account of tuberculosis and the section on the respiratory system which is perhaps inevitable. Chapter XV has evidently been misnamed, or should have been combined with Chapter XVII. There are the inevitable startling transitions which always occur in a work by several authors. What a world of difference, for instance, lies between the child who arrives at hospital with abdominal pain (medical aspect of) and the one with abdominal pain (surgical aspects of). One wonders where the child would go who simply had abdominal pain (or where, for that matter, the child with an ischiorectal abscess: possibly having hunted under "Rectum," we should find it described in the second volume). The editors have also allowed themselves considerable latitude over the reproduction of *x*-ray photographs as positives or negatives. Thus, infantile rickets appears as one, late rickets as the other; and the legend on p. 324 describing a "dense white line" in scurvy (which is reproduced in the illustration as a dense black line) has evidently so confused somebody that Trummerfeld's zone appears to have been touched up with dense white, and a little extra white added beyond the calcified matrix to give full measure. In view of the advances which have been made in endocrinology in recent years the chapter on this subject is rather disappointing, and we note that over half the seventy-one references are more than twenty years old. Apart from these minor criticisms, however, the authors maintain a high standard throughout, and since the production was undertaken at a time of great difficulty it reflects much credit on editors, contributors, and publishers alike.

R. W. B. ELLIS.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Science News 6. (Pp. 144. 1s. 6d.) London: Penguin Books. 1948.

Some recent advances in science described for the layman.

Nutrition and Diet Therapy. By A. E. Pavey, S.R.N., D.N. (Pp. 304. 12s. 6d.) London: Faber and Faber. 1948.

A detailed account for nurses.

Psychoanalytic Psychiatry. By A. A. Brill, M.D., Ph.B. (Pp. 259. 15s.) London: John Lehmann. 1948.

A collection of lectures on psycho-analysis.

Handbook on Fractures. By D. Eve, Jr., M.D., F.A.C.S. (Pp. 263. 25s.) London: Henry Kimpton. 1947.

A profusely illustrated manual on the treatment of fractures.

Education and Health. By R. Gamlin, M.A., M.B., D.P.H. (Pp. 372. 12s. 6d.) London: James Nisbet. 1947.

A work on health and hygiene intended primarily for school-teachers.

Modern Plastic Surgical Prosthetics. By A. M. Brown, M.A., M.D. (Pp. 293. 35s.) London: William Heinemann. 1947.

A general account of prosthetic devices and their manufacture, with emphasis on those intended for facial reconstruction.

Illustrative Electrocardiography. By J. Burstein, M.D., and N. Bloom, M.D. 3rd ed. (Pp. 309. No price.) New York and London: D. Appleton-Century. 1948.

A practical survey of electrocardiography, with many illustrations.

The Biology of Melanomas. Edited by R. W. Miner and M. Gordon. (Pp. 466. $5; members, $4.) New York Academy of Sciences. 1948.

Papers on pigmented neoplasms in man and animals.

The Past Won't Die. By McKnight Malmar. (Pp. 120. 6s.) London: Hurst and Blackett. 1948.

A crime story.

Gastritis. By R. Schindler, M.D., F.A.C.P. (Pp. 462. 50s.) London: William Heinemann. 1947.

A monograph on the pathology, clinical aspects, and treatment of gastritis.

The U.F.A.W. Handbook on the Care and Management of Laboratory Animals. Edited by A. N. Worden, M.A., B.Sc., M.R.C.V.S., A.R.I.C. (Pp. 368. 31s. 6d.) London: Baillière, Tindall and Cox. 1947.

Contains also an appendix on statistical analysis.

A Summary of Surgery for Nurses. By S. Taylor, M.A., M.Ch., F.R.C.S. (Pp. 93. 5s.) London: Faber and Faber. 1948.

Alphabetically arranged synopsis of surgery.

Über die Kaliumbestimmung in Biologischer Substanz. By W. K. Rieben. (Pp. 73. Paper 9 francs; stiff covers 12 francs.) Benno Schwabe and Co.

Biochemical estimation of potassium.

Thromboendangiitis Obliterans des Gehirns. By F. Llavero. (Pp. 248. 24 Swiss francs.) Benno Schwabe. 1948.

A monograph on thrombo-angiitis obliterans of the brain.

Hypnotism Today. By L. M. Lecron, B.A., and J. Bordeaux, B.A., M.A. (Pp. 278. 25s.) London: William Heinemann. 1947.

The theory and practice of hypnotism and its use in psychotherapy.

Counseling in Schools of Nursing. By H. P. Gordon *et al.* (Pp. 279. $3.00.) New York and London: McGraw-Hill Book Co. 1947.

Discusses the management of student nurses.

Liber Jubilaris J. Rodhain. (Pp. 409. No price.) Brussels: Imprimeur du Roi. 1947.

A collection of papers on tropical medicine.

BRITISH MEDICAL JOURNAL

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TOWARDS A DECISION

This week's *Journal* goes to press on the eve of the Special Representative Meeting held on Wednesday to consider the Council's recommendation and to receive the results of the plebiscite. Some of the motions and amendments of divisions were published in last week's *Journal* and give some indication of the trend of opinion, especially among general practitioners. The plebiscite has given the representatives an overwhelming vote of confidence in the policy at present followed. Some 40,000 doctors have expressed disapproval of the Act in its present form, and it is obvious that unless some changes are made very large numbers of doctors will refuse to enter the Service on July 5, and that in any case a service will be begun which can give no satisfaction to anyone, least of all to the public. Mr. Aneurin Bevan in the debate in the House of Commons a month ago said that he desired the enthusiastic and harmonious co-operation of the medical profession in the Service of which he is part architect. After he had made this statement an overwhelming majority of all sections of the medical profession told him that they disapproved of his Act, but since the publication of the plebiscite results he has made no move to inquire into the causes of this disapproval and no attempt to secure the co-operation he considers desirable. The Government has, in fact, said that the Service will start on July 5 whether the medical profession wants to work in it or not. If the opposition to the Act had come from one section only of the profession and had been based on some selfish concern about remuneration, this attitude on the part of the Government could have been understood. In view of the policy of the Labour Party in favour of a whole-time State service, opposition from general practitioners and consultants might have been foreseen. But the vote of no confidence in the Government's Act on the part of those who have freely chosen whole-time service surely must indicate to the Government and the public that the National Health Service Act in part or in whole is an unsatisfactory instrument for providing a medical service for the nation. It is therefore idle for anyone to suppose that the medical profession will agree to work in the new Service under the Act in its present form.

We do not, of course, know what resolutions may have been passed by the Representative Body by the time this issue of the *Journal* is published. But we may note that the recommendation of the Council put before it was couched in moderate and unprovocative terms. Propagandists will no doubt make the usual stupid remarks about this being an indication of weakness, without reflecting that to be reasonable at the moment of strength is a sign of wisdom. The medical profession is now in the position of having to decide what its ultimate object is. There would seem to be two courses open to it. The plebiscite result can be interpreted as a root-and-branch opposition to the Act as a whole. This is undoubtedly the attitude of some of those who have voted. If this were, in fact, the attitude of the majority of those who expressed disapproval, then the ultimate object would be the removal of the Act from the Statute Book. If the great majority of consultants and general practitioners refused to enter the Service the Act would die a natural death, and a different one would have to be put in its place. Some consider that even if it were amended in certain respects the main effect of the Act—namely, the nationalization of the medical profession—would be unaltered. Many thoughtful medical men see this as part and parcel of the principal political theme of the contemporary world—the relation between the State and the individual. Mr. Butler said in the House of Commons that "you cannot nationalize conscience"; still less can one nationalize the intimate relationship existing between the sick person and his physician. Even if the Act were amended the Minister of Health, a political figure, will still have enormous power and what amounts to an autocratic control over the medical profession.

The alternative object would be to reopen negotiations with a view to obtaining satisfactory safeguards against the introduction of a full-salaried State medical service. The British Medical Association, in declaring opposition to the Act in its present form, has implied that if the present Act were altered by amendment service under it could be made possible. The Negotiating Committee, of which the B.M.A. formed half the membership, presented a statement to the Minister last December which he considered raised objections to all the principal provisions of the Act. From the standpoint of general practice, criticism has been directed principally at certain features of the Act and certain proposals of the Minister. Mr. Bevan in December made some minor concessions to consultants and specialists, but in spite of this they expressed their disapproval of the Act by an overwhelming majority. It may well be, therefore, that the consultants, who include the teachers of Medicine, are less concerned with the details that interest the general practitioners, and more concerned with the effect of the Act upon the free development of Medicine under the monopoly control of the State.

The Representative Body may have stressed those matters of special interest to general practitioners, who constitute the majority of doctors. But if negotiations are reopened they must include matters that affect all branches of the profession as well as those that concern the general practitioner. There is no need to enumerate them here or engage in the profitless task of trying to arrange them in order of priority. Of overriding importance is the preservation of the professional and individual freedom of the practising doctor. Should it be possible to reopen discussions with the Government, the central fact of independence must be kept in the forefront and not obscured by a preoccupation

with this or that detail. In negotiation there is always "give" as well as "take." To secure concessions concessions must be made. But no concession could be made that would open the door to the introduction of a whole-time salaried State medical service. We believe Mr. Bevan when he says that it is not his intention to introduce such a service, and it is no reflection upon him to say that this expressed intention is no safeguard to the medical profession, because it would not be binding on his successor in the new Government that will be formed after a General Election to be held within two years from now. There is nothing in the present Act which offers the safeguard required, and the logical conclusion is that nothing short of an amending Act would provide this safeguard.

At the moment of writing the decisions of the Representative Body are not known. They may be related principally to the position of the general practitioner. The British Medical Association, however, has among its members all sections of the medical profession. In proportion, in fact, the consultants and specialists are as well represented in membership as are the general practitioners. The B.M.A. is therefore representative of the profession and is conscious of its obligation to the profession as a whole. It will therefore be essential to take into account the attitude and opinion of the consultant world if these find corporate expression through its organizations. Since the publication in January last year of the letter by the three Presidents the Colleges have refrained from any positive expression of opinion except in so far as they contributed to the work of the Negotiating Committee. They cannot, however, long remain silent, and it is much to be hoped that the Colleges will discover what are the views of their Fellows and take steps to make them public, hampered though they may be by a machinery that does not include what the Webbs have described as "the devices of advanced democracy."

It is becoming the fashion to compare medical men with miners and other manual workers. Those who do this do not pursue the argument by stating that the miners wanted nationalization in order to pursue their necessary and honourable task with a contented mind. Medical men have asked not to be nationalized because they feel that if they are they will not be able to work with a contented mind. But while the miners are granted their wish, the medical men are denied theirs. This method of consent by compulsion is misnamed "Democracy." Both the Government and the medical profession wish to see that the public has an efficient medical service. The Government claims that their Act will provide this, but we repeat once more that if this Act, even amended, comes into operation on July 5 the public will be disillusioned, and will have a less efficient medical service than at present, for the reason that it will be impossible by July 5—or even for years to come—to provide the necessary number of hospitals, doctors, nurses, dentists, and other health workers, not to mention health centres. We suggest that it is still not too late for the Government to review this position so that both the public and the medical profession may co-operate in their fight against disease and in the maintenance and promotion of health.

THE WORLD FOOD POSITION

Sir John Boyd Orr, director of the Food and Agriculture Organization of United Nations, told the third conference of that body when it assembled last autumn that the position was no better than it had been the year before, and that unless the war-devastated countries were provided with machinery and fertilizers for the harvest of 1948 the severe food shortage would last for at least two years more. He said also that, taking into account the probable increase in world population, food production would need to be doubled during the next 25 years to provide everybody with a diet capable of maintaining health and working efficiency. Meanwhile the continuing shortage calls for the fullest use of all available sources of food supply, prevention of avoidable waste, protection of vulnerable groups, and careful watch on the nutritional position in general.

If this is a world crisis at least world opinion and resolution are mobilized to meet it. After the first World War the League of Nations measured itself against the prevailing need but took little cognizance of food problems. The word "nutrition" or "food" does not appear in its covenant. It set up organizations to deal with health, with the drug traffic, with social questions, with the resettlement of refugees, but not specifically with famine, though later in its history there was formed the Technical Commission on Nutrition, which has done valuable work, to be continued, it is hoped, under F.A.O. But the United Nations had scarcely been established before F.A.O. became one of its instruments. It was conceived at Hot Springs in 1943, held its first conference at Quebec in 1945, its second at Copenhagen in 1946, its third at Geneva in 1947, attended by representatives of fifty nations. Under its encouragement 34 countries—this was the number last year and is probably now exceeded—have set up national committees. Regional offices have been established or are projected for Europe, the Middle East, Asia, and Latin America. Two regional conferences are planned, in Latin America and in the Far East. The staff of the Organization in Washington, numbering something like 400, is organized in about six divisions—agriculture; economics, marketing, and statistics; fisheries; forestry; nutrition; and technical and administrative services. There is also the nucleus of a division of rural welfare. The work is assisted by six standing advisory committees. The report of the meeting of the Advisory Committee on Nutrition, held at Geneva last September under the chairmanship of Lord Horder, is summarized elsewhere in this issue. The Director of the Organization has sent a cable to Lord Horder approving a suggestion that material in the possession of the Advisory Committee should be made available to the Nutrition Committee set up not long ago by the British Medical Association. Thus a useful liaison between the Association and F.A.O. will be established.

The subject of nutrition and food requirement is extraordinarily well documented. At every meeting the results of new studies become available, and instructions are given for yet more. When the Advisory Committee assembled at Geneva it had to absorb about twenty reports and memoranda. The ordinary man may feel some impatience at so much preliminary surveying when the important

thing is to get more cereals and roots under cultivation and develop animal husbandry, but the object of these reports and the expert consideration they receive is to avoid the wastage and misuse of food which with marginal resources can be ill-afforded. The recent F.A.O. conference was reminded that the very increase of agricultural production achieved by exporting countries in their efforts to relieve the world shortage may well lead to unmarketable surpluses. An observer back from Greece has told how some of the food sent by U.N.R.R.A. wilted in Athens shops, the Greek preferring his traditional bread and olives. The feeding of the world is, after all, a task for experts. If the world managed to survive in an earlier period without the expert it was only because of seeming abundance, and even then there were regional famines and ill-balanced diets for large populations. Indeed, the conclusion of the World Food Survey by F.A.O. was that before the recent World War half the population of the world was underfed in that it subsisted on a diet inadequate to maintain normal health, to allow for normal growth in children, and to furnish energy for normal work.

One of the present tasks of F.A.O. is to collate all research projects in the field of nutrition in various countries, to construct an index of nutrition workers and institutions, and to disseminate information wherever it is wanted. A useful achievement is the co-operation between F.A.O. and the World Health Organization, almost the youngest of the nine or ten specialized agencies of United Nations, and now, twenty-five countries having ratified its constitution, to be established on a permanent basis. The first co-operative effort of the two organizations is a report on child nutrition, intended for the guidance of the International Emergency Children's Fund for the rehabilitation of children and adolescents in the war-devastated countries. This fund is making plans to provide supplementary food, especially dried skimmed milk, for millions of such children. A point emphasized at the recent conference was the need for increasing the amount of dried skimmed milk available, and at the same time there was a Belgian proposal, referred to the divisions, that a study be made of the distribution of fresh milk in different countries. With the improvement of herds in pastoral regions and an increase in mixed farming, a more abundant milk yield may go far to help matters.

At a recent meeting in Rome experts on nutrition problems in Europe considered ways of improving the production and consumption of fruits and vegetables. The Nutrition Division is concerning itself with aspects of cereal technology, cereals in most countries contributing half the calories in the diet. Another special activity of F.A.O. is the collection of data on school meals, on which a preliminary report was made to the conference. School feeding is regarded as one of the most effective ways of ensuring improved nutrition.

Food is a world problem, but, as the report of the third conference states, "problems of nutrition differ in various parts of the world, and it is necessary to attack them on a regional basis." It is here that a world organization proves itself of greatest service. It is able to review national or regional problems relating to food and agriculture in such a way that the activities and programmes in one region or country can be correlated with those in others. The lessons learned in one part of the world can be applied elsewhere. The experience of one country can supplement that of its neighbour and make good its deficiencies, and accepted principles of a general character can be modified to meet a local situation, having due regard to dietary habits and nutritional state. That is what, through many channels, the F.A.O. is doing.

TYRANNY IN THE UNIVERSITY

Those of us who were at school in the halcyon days before 1914 when we learnt of the murder of Socrates, of the trials by the Inquisition, or of the horrors of the slave trade were easily led to think that such things could never happen again. We thought that with material progress there must also be spiritual progress. But the spirit of tyranny is just as active to-day as ever it was, and the centralization of power in one country after another makes its task easier than ever before. The technique of tyranny is now familiar—infiltration, the political coup from either the right or left by a determined minority not afraid to use force, then the purge of newspapers and the radio, the closing of frontiers, the banning of foreign literature, and finally the control of universities and teaching.

In Europe this has now become such a matter of course as scarcely to excite a nine days' wonder. It is perhaps less well known that the same thing has been happening in the New World. When we announced[1] the election as a foreign member of the Royal Society of Prof. Bernardo A. Houssay, the distinguished physiologist and Nobel Prize Winner for 1947, we referred to the fact of his dismissal from the University of Buenos Aires. Since then things have gone from bad to worse, and now there are no fewer than 1,073 members of the staffs of the six Argentine Universities who have been either summarily dismissed or compulsorily retired, or have voluntarily resigned. A pamphlet has recently been issued by the Federation of Societies for Defence and Advancement of the Democratic and Free University of Argentina entitled "The Enslavement of the Argentine University." The preface of this pamphlet outlines very clearly the present situation in that country:

"During the current political crisis, for our country the major one in fifty years, the university professors of Argentina, responding honourably to the democratic tradition and to the demands of citizenship, have opposed themselves firmly to the advances of a dictatorship which arose from the militarist movement of 1943. In doing so, they complied with their civic duties, inescapably imposed upon them by their position as teachers of the youth. It was not only the professors who raised their voice against the dictatorship. The students of all the Argentine universities responded similarly in the defence of the basic institutions of the country, gravely endangered at this sad hour of our political evolution.

"The Decree of Intervention, pronounced in May, 1946, was an act of vengeance against this patriotic attitude; its aim was to dismiss from their posts all who, maintaining their duties as teachers, also complied with their civic duties. The Government dismissed all the Rectors, the great majority of the Deans, and a large number of Professors, whose lives had been dedicated to teaching and to scientific research. No consideration was given to, nor respect shown for, the prestige which the work of these savants had brought to Argentine science.

"Through the vindictiveness of the Government, the students of Argentina have received the most impressive lesson of their careers; but happily for the future of the country, they have

[1] *British Medical Journal*, 1947, 2, 698.

protected and cherished their high ideals without equivocation. In all manner of means they have expressed their respect and regard for their dismissed professors, who had undertaken their civic and patriotic activities only because of high moral concepts and at risk to their personal interests. Many students have been imprisoned, suspended, or dismissed; some have had to continue their studies out of the country, finding it impossible to do so in the halls of the Argentine universities.

"Time cannot erase the humiliation which has been heaped, not on the professors' themselves, but really on the dignity of the university professions. Despite the formal return to constitutional law, the universities have undergone actually no change either with respect to acts of the Government or the decisions of professors and students. The Government maintains the Argentine universities in the same state of vassalage; students and professors continue their protest against the situation.

"Through the imposition of the new laws, the Free University will disappear, and with it justice and right for the professors, freedom to teach, and stimulus to investigators who will never feel secure in their classrooms and laboratories. With the dismissal of the group of professors who gave lustre to the nation's universities and examples to the youth, and with authority, through the new laws in other hands, the universities will have ceased to be fountains of learning and will have become mere technical schools and mouthpieces for the bureaucracy of the Government."

We believe that this sort of thing "can't happen here." Nevertheless there are danger signs. The publication of any scientific periodical can easily be impeded, delayed, or even suspended by failure to allot the necessary paper. The import of scientific books or periodicals from abroad is already controlled and curtailed. Men of science are having a hard fight to maintain their integrity against the demands for secrecy of Government Departments, and in research institutes there is the tendency for commercial interests to muzzle and hamper the spirit of unfettered scientific curiosity. Since our universities are now largely financed by Government grants there is temptation for the Government to exercise control—no doubt in the public interest. But who is to interpret public interest—the omniscient "omni-incompetent" State, or those who in the universities preserve the values of our civilization?

FRESH THOUGHTS ON HARRISON'S GROOVES

Publications of purely clinical findings are all too few, and there appears elsewhere in this issue a paper by two young physicians—Dr. J. Naish and Dr. H. R. E. Wallis—regarding the significance of Harrison's grooves, which is in every way a happy choice of subject. These authors point out for the first time that this physical sign was the observation of one Edwin Harrison and not of the better publicized Edward Harrison, and that the former indeed wrote very little. Having cleared up this obscurity they then turn to the question of the actual mechanism of the formation of the grooves. Much confusion regarding this point exists even to the present day, and they are certainly not produced at the attachment of the diaphragm to the ribs, as many textbooks continue to assert. The suggestion now put forward is that these transverse depressions occur in a zone between the upper ribs, which move upwards, forwards, and rotate outwards, and the lower ribs, which move outwards and backwards—thus increasing the transverse diameter of the upper abdomen. In the presence of increased negative pressure in the thorax the point most likely to buckle would be at that zone where the two movements diverge, a point that has been termed the "muscle gap."

A study of various groups of children in Bristol led Naish and Wallis to conclude that as many as 45% of normal school-children have detectable grooves, and about 7% have grooves as deep as 3/16 in. There is no reason to think that the grooves are particularly common in mild rickets, though they are frequent in severe forms of the disease, and the contention that Harrison's sulcus is valueless as a sign of early rickets is again confirmed.

The connexion between bronchitis, whooping-cough, measles, or any severe upper respiratory infection in early life and the development of these sulci could not be proved on statistical grounds, although the deformity was more common in children who had suffered from these diseases. In asthma, on the other hand, the incidence was heavy, and long-standing asthma was the commonest aetiological factor.

A curious finding was the frequency in which the condition was associated with congenital heart disease, but no firm explanation is offered. Indeed the exact mechanism of the development of these grooves remains in some doubt, though the presumption is that it is associated with conditions producing increased intrathoracic traction. Be that as it may, this paper is a very useful contribution to the lore of clinical signs.

TESTOSTERONE IN ANGINA OF EFFORT

John Hunter observed that Nature resorts to vascularity when she has work to do. Prodigal in most things, Nature needs encouragement, and the patient needs help with exogenous coronary vasodilators in cardiac effort pain; for there seems little doubt that the relief from pain given by nitroglycerin and other related drugs is due to augmented coronary blood flow. Although it is now generally agreed that the symptom of cardiac effort pain, or angina of effort, originates in myocardial ischaemia, the many remedies which have been suggested should remind us that the unsolved problems include the influence of temperament, emotion, and suggestion, the absence of correlation between the severity of the pain and the extent of ischaemic myocardium, the impracticability of finding out what would happen in any individual case if we did nothing, and the difficulty of assessing the action of a drug in a disease where all other symptoms are dwarfed by the purely subjective symptom of pain.

Prolonged treatment of angina of effort with testosterone propionate has been increasingly advocated in the last few years. Waldman[1] has reviewed the results of this treatment in 74 cases in the literature. He has added ten cases of his own in which, unlike many of the other cases, there was adequate regard for control periods and in which full use was made of those electrocardiographic criteria which are reasonably supposed to indicate myocardial anoxia. His conclusions were that testosterone propionate in no way replaces the well-established coronary vasodilators such as nitroglycerin in the treatment of acute attacks, but that when it is given in 25-mg. doses intramuscularly twice weekly for a minimum period of eight weeks it usually produces a sustained improvement. Side effects could be regarded as insignificant. Lesser[2] more recently reported a series of 100 cases which he treated with testosterone propionate, some of his earlier cases having been included in Waldman's review. His conclusions appear to rely less on controls or objective criteria than on the size of his series. The dosage and period of treatment are much the same as those given by Waldman, but both authors stress that "individualization" is necessary and some patients need treatment for five or six months before prolonged improvement occurs. In Lesser's series of 100 cases 91

[1] *J. clin. Endocrinol.*, 1945, **5**, 305.
[2] Ibid., 1946, **6**, 549.

improved—51 of these to such an extent that each "was able to increase his physical activity without precipitating an anginal attack for a period of at least two months after testosterone therapy was discontinued." As Lesser points out, it would be most unusual for the almost uniform improvement to occur spontaneously in such a large series, and he attributes these good results to testosterone propionate, adding a warning against intensive therapy, to which he attributes acute cardiac failure in one of his patients who was given 25 mg. of testosterone propionate daily for one week.

There are several concepts of the mechanism of testosterone therapy in angina of effort, summarized by Waldman. All of them seem very speculative, and they are perhaps best passed over with the thought that many respectable drugs of accepted therapeutic value have had even stranger origins. More extended and carefully controlled trials are necessary before the long-term treatment of angina of effort with testosterone can be established.

THIRTY-MILLION VOLT X RAYS

Further details can now be given of the 30-million electron volt synchrotrons which are being built for the Medical Research Council and the Atomic Energy Research Establishment of the Ministry of Supply. In so far as their medical use is concerned the generation of *x* rays of such voltage will substantially increase the ratio of depth to surface dosage, compared with either existing *x*-ray equipment or radium bomb irradiation.[1 2] The synchrotron is merely one possible method of accelerating *x* rays to the required high voltage, and the *x* rays are generated, as with ordinary equipment, when the electrons thus accelerated hit a metal target. The particular combination of magnetic and electrical acceleration which the synchrotron achieves was first demonstrated, as an experimental system, by the Telecommunication Research Establishment at Malvern, and subsequent development up to the manufacturing stage has been in the nuclear physics laboratories of the General Electric Company at Stafford, where a demonstration of progress to date was given recently.

The first of the synchrotrons, destined for the Atomic Energy Research Establishment, is now physically complete and at an advanced stage of testing; the second and third to be produced will go to the Medical Research Council. In external form they are cylinders about four feet in diameter, and their weight is about three and a half tons. Whilst a formidable piece of equipment, the synchrotron is reasonably compact considering the high energies produced. The *x*-ray beam emerges from a fixed point (the target) and, with reference to the synchrotron, its direction remains constant. The beam is about 15 degrees in total width—and the word "total" should perhaps be emphasized, since beam-widths are often measured to half intensity. For medical use, provision will be made for the rotation of the complete synchrotron about its axis, and with gimbal-mounting direction of the *x*-ray beam will be a simple matter. The synchrotron, thus given effective mobility in three dimensions, will be set up in the treatment room so that patients will lie beneath it, in general at about a metre from the point of emergence of the beam. Control will necessarily be remote, since workers in the department must obviously not be continually exposed to stray radiation. A small television apparatus has accordingly been designed which will enable those responsible to observe continuously from the control room the condition and position of the patient. Thus, if the patient had moved so that the beam was no longer being correctly directed treatment could at once be suspended.

A further piece of equipment, which was also shown, is of experimental rather than therapeutic interest. This is a pulse-operated generator, designed to provide extremely high doses of *x* rays for short periods. With individual pulses of irradiation of only about half-a-millionth of a second duration—a similar length of time to that used in some forms of radar equipment—a dosage equivalent to 2,500,000 r per minute can be attained—roughly fifty times greater than the highest rate about which published information is available. For comparison, the accepted safety limit in atomic energy plants is 0.1 r in a full eight-hours working day, and, below this again, radiation-recording equipment is available which will give a full-scale reading at one-tenth of the permitted rate; finally, at one-tenth of the latter, and at one-hundredth of the permitted level for atomic energy workers, we reach the inevitable permanent background of irradiation provided by cosmic rays. The total range in rate of dosage between cosmic radiation and the experimental pulse generator already mentioned is accordingly of the order 10^{12} to 1—a figure which is perhaps more eloquent than a verbal description of the engineering progress which has been made.

Further developments in this field include a 300-million electron volt synchrotron planned for the department of physics at Glasgow University. A similar machine is under construction at the Massachusetts Institute of Technology. Prof. Kerst, of the University of Illinois, Urbana, also plans to accelerate electrons to 300-million volts with the older betatron type of equipment which he himself developed. Although 300-million volt *x* rays are thus already within sight, it appears unlikely that for therapeutic purposes there will be any advantages in going much, if at all, beyond the 30-million volt generators now available.

[1] *British Medical Journal*, 1947, 1, 571.
[2] Ibid., 1947, 2, 101.

INTERNATIONAL CONGRESS OF INDUSTRIAL MEDICINE

The 9th International Congress of Industrial Medicine will be held in London from September 13–17 of this year under the patronage of the King and the Queen. The last Congress was held ten years ago, and the first in 1906. The success of past Congresses has been in no small measure due to the inspiration of Prof. Carozzi, who is taking an active part in securing the success of the Congress to be held this year. As is befitting in an industrial country, the Government is officially sponsoring the Congress, and the following Ministers have agreed to serve as Vice-patrons: Mr. Ernest Bevin, Mr. G. A. Isaacs, Mr. Aneurin Bevan, Mr. James Griffiths, Mr. G. R. Strauss, and Mr. H. T. N. Gaitskell. Lord Moran and Sir Alfred Webb-Johnson have accepted office as Presidents of the Congress; Mr. T. E. A. Stowell is Chairman of the British Committee and Dr. Donald Hunter of the Planning Committee. The programme of papers is not yet complete, but it has been decided that various sections will deal with such subjects as: Young Persons in Industry; the Determination of Dusts in Air; Administration and Training; Pneumoconiosis; Dermatology; Burns; Industrial Medicine in the Tropics; and the Training of Industrial Medical Officers. There will be a discussion on rehabilitation, and arrangements have been made to visit various rehabilitation centres, clinics, and hospitals. The official languages of the Congress are French and English, and those who wish to have further information should communicate with the Organizing Secretary, Room 501, Garden Court Wing, B.M.A. House, Tavistock Square, London, W.C.1.

THE FOOD CRISIS AND THE F.A.O.

RECOMMENDATIONS OF ADVISORY COMMITTEE ON NUTRITION

The Food and Agriculture Organization of United Nations has a standing advisory committee on nutrition, which held its first meeting at Copenhagen in 1946 and its second at Geneva in September of last year. The second meeting, which took place under the chairmanship of Lord Horder, was attended by thirteen members from eleven countries and three observers and lasted for nine days.

One matter to which the Committee drew attention was the agenda of the regional conferences which F.A.O. is arranging. It was considered that these conferences should centre on three main subjects: (1) the most important problems of nutrition in the region concerned, with special regard to areas within the region in which malnutrition is particularly serious; (2) practical measures for improving nutrition; and (3) a follow-up by means of national organizations. One of the practical measures recommended is to devise programmes for certain "demonstration areas" calling for the co-operation of experts in nutrition, agriculture, animal husbandry, fisheries, sociology, cultural anthropology, and home management. These demonstration areas would serve as training grounds for field nutrition workers.

On the question of school feeding, on which a large amount of information has been collected, the Committee felt that the Nutrition Division of F.A.O. might do more than present a picture of the situation in different countries; it should attempt to provide guidance for those concerned in the organization of school feeding. School meals should, wherever possible, be rich in protective foods, and should effectively supplement home meals. "Definite merit attaches to the 'mid-morning snack' which is in vogue in some countries."

Another recommendation was that the Division should prepare and periodically revise tables of food composition for international use, should encourage research on composition of foods, methods of analysis, and correct identification, description, and classification of foods, and should support the study of chemical composition and physiological value of foods which have been insufficiently investigated, and of products newly recognized as food.

A series of recommendations were also made concerning food technology: that there should be a study of the comparative nutritional value of different types of rice produced in different parts of the world; that dried skimmed milk should receive attention; that more use might be made of soya bean products in the emergency; that dried yeast had nutritive value as a supplementary food for human beings; and that more information should be obtained on the subject of synthetic edible fats and their nutritive value.

Education in Nutrition

The Committee reinforced the view which it expressed at its previous meeting in 1946, that education in nutrition is of prime importance, that it should begin with the child, that school feeding is itself a valuable means of nutrition-teaching; also that "the family doctor, being in a key position, should be taught the principles of nutrition in his preclinical studies, and should be familiar throughout the whole of his clinical training with the many ways in which degrees of malnutrition enter into disease processes." The report adds: "The crux of the position, admittedly unsatisfactory, seems to lie in the question, Who shall teach the teacher? The answer, in great measure, lies with the universities."

Other subjects on which the Committee made recommendations included the preparation of memoranda on the technique and interpretation of diet surveys, physiological requirements of calories and nutrients, and the assessment of nutritional status. The Committee reaffirmed its view that lessons of value for the future can be drawn from the study of nutrition and food management during the war and its aftermath, and recommended that the Nutrition Division should keep itself informed about relevant studies in this field which have been made in different countries.

In the course of its sitting the Committee received a deputation from the League of Red Cross Societies, which pointed out that it represented a very large body of voluntary workers experienced in the handling of school meals and in education in nutrition, and the Committee drew the attention of the Director-General to this fact and expressed the hope that ways and means of collaboration between the F.A.O. and the League might be found.

Of the many documents before the Committee one of the most valuable was a text prepared by one of its members, Dr. Isabella Leitch, of the Rowett Institute, Scotland, entitled "Preliminary Notes on Vital Statistics and Standards of Living," in which the relations between mortality, occupation, social and economic status, and nutrition were discussed. This analysis is to be developed further on the nutritional side, and is likely to clarify an issue of great interest and importance to F.A.O.

WORLD FOOD SITUATION

Prof. J. R. Marrack, who holds the chair of chemical pathology at the London Hospital Medical College, addressed the Anglo-Austrian Society in the theatre of the British Council on March 11 on the organization of world food supplies. Mr. A. L. Bacharach presided.

During the recent war, said Prof. Marrack, the United States managed to produce more food than ever before for its own people and for export, and it was realized that here was an example of what might be done, through a proper system of production and regulation, towards eliminating malnutrition throughout the world. At the Hot Springs Conference in 1943 the problem was seen to be not the production of the food but the ability of the consumer to pay for it. Even though farmers set themselves to produce as much food as possible, if the power of buying was restricted the depression of the early 'thirties would be repeated.

It was unfortunate that the scheme envisaged at the Hot Springs Conference was not put into force at the end of the war. U.N.R.R.A. was formed not only for the administration of relief but to rebuild the economies of the occupied countries of Europe, but unfortunately, in the final draft scheme for U.N.R.R.A., although the second purpose remained in its name, rehabilitation was in fact dropped and the scheme became one merely of emergency relief. U.N.R.R.A. had supplied food only to those countries which could not afford to pay for it, and the countries which could afford to pay had started a scramble for inadequate supplies. Thus the whole idea of supplying each country according to need fell to the ground.

Disappointed Hopes

Out of the Hot Springs Conference arose the Food and Agriculture Organization of United Nations. Prof. Marrack held that this Organization should have been enabled to buy and hold stocks of food, to supply countries in need, and to administer finance in such a way as to give farmers throughout the world the necessary farming equipment. Sir John Boyd Orr had contemplated the building up of buffer stocks of food so that when there was abundance the Organization could buy and supply to areas where food was scarce. But what had emerged in the end, instead of an international body to buy stocks, was an agreement that individual countries should buy. Prices had been fixed for wheat—the key commodity—and an agreement had been made whereby three out of the four great producing countries would during the next five years produce set amounts which a large number of consumers would take. This gave security to farmers, but it did not give international control of food production, nor did it include arrangements for holding back buffer stocks for relief and improvement of nutrition all over the world. The scheme was essentially a restrictive one, whereas Orr's original scheme was one of expanding economy, ensuring freedom from unemployment by stimulating food production and making sure that malnutrition should cease.

Prof. Marrack contrasted effectively the relative lack of achievement in the application of science to agriculture and the achievements in recent years in medicine. If in agriculture and agricultural economy the same scientific methods had been pursued with the same conviction and enthusiasm, in the prevention of diseases of animals and plants, in the planning of production and regulation of distribution, the spectre of malnutrition might no longer haunt the world. He concluded by saying that the western nations of Europe could not unite for a better purpose than to run a food organization.

GUY'S HOSPITAL DENTAL SCHOOL

The annual clinical meeting of Guy's Hospital Dental School took place on March 6, when the departments and theatres were crowded with old students for a full programme of demonstrations and exhibits. The emphasis in the exhibition was on preventive dentistry. The *x*-ray department showed the advantages of intraoral stereoscopic projections. The prosthetic laboratory contained some interesting models in acrylic resin, and this material found various uses in the conservation-room. Among the pathological and experimental specimens in the research laboratory were the results of an investigation on the effect of prematurity on tooth enamel. Radiographs and photographs indicated that where there had been no illness in pregnancy the position of the infant's teeth was well marked, the neonatal line corresponding to the degree of prematurity; but where there had been severe constitutional disturbances there was evidence of interrupted enamel deposition and altered structure. In the conservation-room some work on the use of penicillin in root canal therapy was demonstrated. Various methods for the prevention of dental caries were illustrated: the application of sodium fluoride in distilled water; the use of zinc chloride and potassium ferrocyanide; and a mouth-wash and dentifrice based on the effect of ammonia nitrogen on the growth of the lacto-bacillus acidophilus. It was stated that the regular use of this mouthwash and tooth-powder had been shown to produce a marked reduction in the oral lacto-bacillus counts, but confirmatory evidence of a reduction in actual caries was still awaited.

The preclinical department showed the methods of stress analysis which had been adapted for the study of stress distribution in the different parts of a clasp with the object of reducing high stresses and consequent danger of breakage. The making of copper dies of the teeth as a means of ensuring accuracy and hardness for fillings, crowns, and bridges was also shown. Besides the various demonstrations, operations for osteoma of the jaw, for ankylosis of the temporomandibular joint, and for other conditions were undertaken.

Nova et Vetera

CENTURY OF CERTIFICATION

That the provision of certificates worried medical practitioners 100 years ago is shown by the following letter that appeared in the "Provincial Medical and Surgical Journal," the predecessor of the "B.M.J.," on March 22, 1848.

Baptism of Sick Infants

SIR,—May I beg the favour through the medium of the *Provincial Journal*, of inquiring of my professional brethren, how they are in the habit of treating certain applications made to them under the following circumstances?

It appears that the clergy in the diocese of Norwich, and, most probable, the same is the case elsewhere, are instructed that the baptism of infants shall only be performed in strict conformity with the rubric, and that the practice of a preliminary baptism or "naming," as heretofore customary, should be discontinued. In complying with this ordinance, the clergy, as if by a mutual understanding, have set apart one Sunday in each month, and it is expected all children born in the intervening period, shall on this day be brought to the font, attended by the required sponsors. Now, it happens not unfrequently, that an infant is attacked with sickness previous to the advent of this important day, and the parents, anxious to secure it a christian burial, and perhaps, if imbued with faith in the doctrine of baptismal regeneration, dreading the death of their infant unregenerate, apply to the minister to have it baptized. The answer is—"Unless you bring a certificate from a surgeon, stating that the child's life is in imminent peril, the rite cannot be performed." Hitherto I have declined giving the necessary document, as I can only regard such a demand on the part of the clergy as tending to fasten unduly a solemn responsibility on the medical profession, which naturally belongs to themselves.

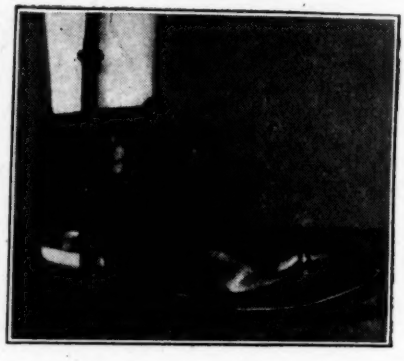
I am, Sir,
Your most obedient servant,
JAMES COOPER.

Filby, Great Yarmouth, Norfolk,
March 3, 1848.

Preparations and Appliances

A DEMONSTRATION WALKING CALLIPER-BOOT

Mr. HORACE DAVIES, visiting orthopaedic surgeon, Birkenhead Municipal Hospital and Whiston County Hospital, writes: It is often difficult to demonstrate in a convincing way to students and nurses the principle of the weight-bearing walking calliper. We have to rely mainly upon the patient's word that his heel is not in contact with the boot. This is particularly difficult in children, especially if the calliper has to be worn for a lengthy period, and constant adjustments are necessary. The heel–boot space can, of course, be shown by removing the back of the boot, but this is of use only in a demonstration model. A serviceable method enabling normal use of the calliper is shown in the accompanying photograph. An oblong

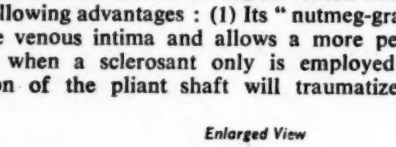


piece of the boot is removed from the inner side and replaced by "perspex." The plastic is inserted from the top, between the leather and the lining, and then cemented into position, using a waterproof plastic glue. Through this window the heel and the space below can easily be seen and adjustments of calliper length made with precision.

ROUGHENED NEEDLE-HEAD FOR TREATMENT OF VARICOSE VEINS

Mr. R. ROWDEN FOOTE, London, W.1, writes: This needle-head is a modification of that on the Stevenson needle, and presents the following advantages: (1) Its "nutmeg-grater" surface scarifies the venous intima and allows a more perfect thrombosis than when a sclerosant only is employed; (2) gentle manipulation of the pliant shaft will traumatize the intima

Enlarged View



Bell & Croyden, London

without unnecessary damage; (3) the rocket-shaped nose of the needle facilitates the entry of this instrument into the vein. The shaft is usually 12 in. (30 cm.) long, and it is fitted with a "record" needle mount.

This instrument was made for me by John Bell and Croyden, Wigmore Street, W.1. I am indebted to Mr. Proudfoot for his patience and interest, and for the many specimens of this needle constructed before I was finally satisfied.

The Australian Commonwealth Director of Tuberculosis, Dr. H. Wunderly, believes that Australia could wipe out tuberculosis in 20 years if sufficient money were available. After examining the conditions in each State during the past six months, he has presented a report on the incidence of the disease to the Minister for Health.

Reports of Societies

RUPTURE OF CERVICAL INTERVERTEBRAL DISK

The subject for discussion at a meeting of the Section of Neurology of the Royal Society of Medicine on March 4 was rupture of the intervertebral disk in the cervical region. Dr. C. WORSTER-DROUGHT presided.

Dr. W. RUSSELL BRAIN said that the problem presented itself in patients who complained of symptoms of irritation of a posterior root in the cervical region, or of compression of the spinal cord in the neck, or in some cases of both. Some had a protruded intervertebral disk without arthritis, some had protrusion with arthritis, and some had arthritis without protrusion; the protrusion might be cartilaginous alone or both cartilaginous and bony. The condition might be the result of trauma or it might be associated with chronic inflammation.

Disk protrusions were common in the cervical and lumbar regions, rare in the thoracic. Both cervical and lumbar regions had greater mobility than the thoracic spine, and were specially exposed to trauma—in the lumbar region by strains due to weight-lifting or by falls on the buttocks, and in the cervical region by the effects of violent movements of the head. In the cervical spine the intervertebral disks were larger, relative to the vertebrae, than in the lumbar region. The posterior longitudinal ligament extended opposite each intervertebral disk, but did not reach the disk margin. If the central fibres were ruptured the disk protruded backwards in the mid-line, but if that did not happen or the disk protruded somewhat to one side it tended to extend laterally.

No doubt the earliest changes were vascular. The veins were the first vascular structures to be compressed, and since the flow in the veins was upwards the effect of compression was to produce oedema of the segments of the spinal cord immediately below the site of compression. The first effect of an anterior or antero-lateral protrusion would be an oedema of the anterior or antero-lateral areas of the cord at the site of compression and in a few segments immediately below. It was an interesting point whether the arterial blood supply also suffered; on general grounds it would be expected to suffer later.

Clinical Findings

Dr. Brain illustrated his further remarks with ten surgically verified cases, from one of which post-mortem material was also available. Most of the ten were middle-aged or elderly; only two were under forty. Only two had symptoms of the root irritation type alone; in the remaining eight the spinal cord was compressed. These numbers did not represent the relative frequency of the two clinical pictures: Trauma appeared to have been a factor in only two of the cases; osteoarthritis of the cervical spine was present in at least seven and might be fairly diffuse or limited to the articulations adjacent to one intervertebral disk. In one of these patients protrusion occurred during pregnancy, which was interesting in view of the relation of pregnancy to herniation of the lumbar intervertebral disk. Patients in whom trauma was an important factor seemed to be, on the whole, younger than those with osteoarthritis and more likely to develop root irritation than compression of the cord. The site of the disk protrusion was between the fifth and sixth cervical bodies in five of the cases, between the fourth and fifth in two, and in the other three cases it was between the second and third, the third and fourth, and the sixth and seventh, respectively.

Four principal ways in which the protrusion might manifest itself could be distinguished: an acute onset of symptoms, especially pain, involving the neck and one upper arm; insidious and perhaps remittent onset of the same character and distribution; insidious onset with root symptoms referred to one upper arm, together with evidence of lesion of the spinal cord; and finally, and much less commonly, there was the insidious onset of a progressive spinal cord lesion alone. The acute onset of symptoms involving the neck and one upper limb seemed often to follow trauma. The history of compression of the spinal cord was quite short in a number of cases: in five of the ten patients it varied from two to nine months; others had a history extending over two or two-and-a-half years, and in one case ten years.

The most prominent symptom was pain, usually described as shooting or burning in character, and sometimes as agonizing. Sensory loss was usually slight and patchy, involving cutaneous rather than deep sensibility. A severe degree of muscular wasting, weakness, and hypotonia was uncommon. When the cord was involved above the cervical enlargement the signs of a pyramidal lesion were evident in all four limbs. One conspicuous feature was the frequency of wasting of the small muscles of the hand. In eight of the nine cases in which the cerebrospinal fluid was investigated some abnormality was found.

As with herniated lumbar disks, recovery from the symptoms of root irritation might follow conservative measures. Prolonged immobilization should be tried; operation should be carried out in those comparatively few patients who suffered from persistent pain in the neck or upper limb or from serious muscular wasting and weakness, or from spinal compression.

Surgical Approach

Mr. G. C. KNIGHT spoke of the importance of the relation of mid-line protrusion to the anterior spinal artery. Thrombosis of the anterior spinal artery in the lower part of its course was likely to have an ascending effect on the cord. He had seen a permanent paraplegia result from thrombosis in that artery. In true protrusion there was evidence of a progressive tendency towards herniation. The protrusion might increase in size and tend to involve more and more of the cord. He had seen three cases which appeared to form a localized spondylitis deformans, and in one case the bony changes in the spine were unilateral. In a traumatic case where there was possibly displacement of the disk as a whole pain could be felt not only in the usual localities but in the supraclavicular and suprascapular regions, and sometimes even in the precordia, leading to a misdiagnosis of the condition as coronary disease. Determination of which root was involved was better based on the paraesthesia than on the distribution of the pain.

Myelography was valuable at all levels. The best treatment for any protruded disk was "a long waiting list." Care should be taken not to operate on these cases unnecessarily or too soon. Rest in the position of greatest comfort to the patient would cure or relieve the majority. Flexion of the head away from the side of the lesion was usually the most comfortable position, but occasionally the opposite might be true. Manipulation was dangerous in disk protrusions. The indications for operation were fairly clear-cut. In a state of established compression, operation was indicated after conservative treatment had failed. He discussed the operative procedures. The single root compression could be tackled adequately by hemilaminectomy. In cord cases a full laminectomy was required.

Dr. J. W. D. BULL gave an interesting survey of the anatomy of the subject. On examining the size of the lower cervical canal the distinction from the lumbar canal was very striking. The tumour in the lumbar disk, when there was maximum protrusion, might be compared to the size of a cherry; on the other hand, in the cervical disk, it was about the size of a red currant. In radiographic examinations it was advisable to take four projections: the standard antero-posterior and lateral, and also two oblique. The antero-posterior view should be taken last after having seen to what extent the vertebral bodies were angulated in the lateral views. So far myelography had not helped very much in the diagnosis of ruptured cervical disk.

Conservative Treatment

Dr. ALDREN TURNER spoke in favour of conservative treatment. His remarks were based on 46 personal cases, in all of which there was pain at the back of the shoulder and down the outer side of the arm, and in some of the cases in the neck and the upper part of the chest. On examination, pain was accentuated by movement of the neck. Neurologically they all showed some signs of interference with function. Very few had radiological evidence of osteoarthritis. None of these patients was operated on. One of them was lost sight of; the

other 45 were followed up until the pain was better. They were treated in bed with four or five pillows below the neck, a sling on the arm, and a mild analgesic. Within less than three weeks 31 were relieved of the pain, and within four weeks a further 9. The remaining 5 were more resistant, and it was from 5 to 12 weeks before the pain ceased. Although the pain was relieved the paraesthesia continued, and he believed might continue for weeks and months. It was as well to warn patients of this fact.

In some further discussion Mr. J. E. A. O'CONNELL said that the average lumbar disk was 25 times as heavy as the average cervical one; nevertheless, quite small cervical protrusions had been known to produce severe clinical symptoms and signs. There were, in his view, four groups of cases of cervical disk protrusion: (1) Cases with cervical and brachial pain, the signs and symptoms showing themselves in the distribution of one cervical root. In this group, with conservative treatment, the prognosis was very good. He had seen 50 cases, of which only one underwent operation. (2) Cases in which at the onset there might be only neck pain and pain in one limb, but symptoms and signs of cord compression then appeared quite suddenly. He had had four cases of this kind in which he had removed unmistakable protrusions which were severely affecting the cord, causing not only compression but contusion as well. (3) Cases in which there was evidence of a severe lesion in the cervical cord developing acutely after trauma. (4) Cases of minor injury to the cervical cord associated with head injury. The features of these cases were stiff neck, weak limbs, and characteristic reflex changes, especially interference with the radial reflex. The lesion responsible he believed to be a cervical disk protrusion.

PSYCHO-ANALYSIS IN HOSPITAL

At a meeting of the Section of Psychiatry of the Royal Society of Medicine on March 9, Prof. Sir DAVID HENDERSON presiding, a discussion took place on "The Application of Psycho-analytic Principles to the Hospital In-patient."

Dr. JOHN RICKMAN defined the aim of psycho-analytical therapy as being to enable the patient to disclose as fully and freely as possible the history of his development, including that of which he had been unconscious. This disclosure the doctor must meet with sincerity of purpose and dispassionately, and he must not lose patience in the face of failure. These qualities were also prerequisite for research. Discovery of the cause and solution of the problem of mental pain were not possible unless the patient experienced relief of suffering in the course of treatment, then he would co-operate in both research and therapy. "No research without therapy; no therapy without research." Invariably there was a strong but unconscious tendency on the part of the patient to defend himself against the research, and this defence process affected both patient and doctor, for if the latter had not worked out his own past experience he would unwittingly co-operate with the patient's defences in greater or less degree, thereby nullifying both the investigating process and the content of the therapy. The aim of psycho-analytical procedure was to facilitate the patient's re-experience of the uncompleted and unconscious emotional situations of the past.

In this, Dr. Rickman went on, there was nothing incompatible with the exhibition of sedatives, shock therapy, surgical interference with the brain or other organ, nor even with the restriction of social locomotion (certification). All these could be pursued along with psycho-analytical therapy, provided—a most important proviso—that every event was referred back to the broad kind of social relationship between doctor and patient known as transference. In the psycho-analytical treatment of the hospital in-patient complications arose from other simultaneous doctor-patient relationships—with the medical superintendent and the house-physician, for example, as well as with the analyst. The role ascribed to each of these persons in the patient's fantasies had to be discerned separately, and it might well happen that the patient would play off one doctor against another, so that the situation became exasperating. But in the long run it would work out satisfactorily if there was co-operation between the analyst and the other doctors concerned.

Relation of Analysis to Other Treatment

Dr. E. STENGEL said that psychiatry could not afford to neglect any approach which promised to contribute to the understanding of mental phenomena. Most cases in mental hospitals were not accessible to psycho-analysis in the ordinary sense, and what could be practised was in the main applied psycho-analysis. Psycho-analysis was thought of too frequently mainly as a therapeutic procedure, and the fact was overlooked that its contribution to mental science consisted of certain fundamental formulations. There was still a tendency amongst psychiatrists to judge the significance of psycho-analysis from its value as a therapy, and to forget, as Ernest Jones had put it, that psycho-analysis had provided psychiatry with an interpretive, a dynamic, and a genetic approach.

He had found it particularly helpful in cases of schizophrenia with remissions to study the patient's reaction by the application of psycho-analytic principles; this had helped him in arriving at a correct assessment of improvement. Dr. Stengel added that the understanding of mental illness did not preclude the possibility that it was an organic disease. On the other hand, the organic nature of the illness did not imply that it could not be influenced psychologically. It had been said that the neurological approach to mental illness, from which the primary clarification was expected, was incompatible with psycho-analysis. For his own part, he saw no difficulty in combining the neurological and the psycho-analytical approach. Some of Freud's concepts had much in common with those of Hughlings Jackson. Psycho-analysts did not claim a monopoly in their approach, but they did claim that for the solution of a great number of scientific problems it was indispensable, and they looked forward to the time when more trained psycho-analysts would work in mental hospitals.

Dr. CLIFFORD SCOTT gave a lengthy and detailed account of the application of psycho-analysis to a manic-depressive female patient at the Cassel Hospital in 1936–8. This patient, who was aged 20 when treatment began, was subject to emotional outbursts in the course of the treatment, but there was eventually an improvement in behaviour and certain homosexual fantasies gave place to normal sexual inclination. After discharge from hospital, treatment was continued for eighteen months, and when last heard of two years ago the patient was well. In such cases, if time was available, if colleagues were co-operative, and if psycho-analytical methods were persistently used, great improvement could be achieved and much good material from the point of view of psychological research would become apparent.

Advantages of Institutional Treatment

Dr. W. H. SHEPLEY agreed that there were certain disadvantages in treating patients analytically in an institution, particularly where the patients were in contact with other doctors, but the advantages far outweighed them. One advantage was that doctor and patient lived in the same community and were familiar with the same events—events which formed an important element in the patient's dreams. There were certain patients who could be treated only by physical methods, such as insulin or shock therapy, and only by resort to physical methods did the patient become accessible to psycho-analysis. He held that the remissions obtained by physical methods of treatment were not satisfactory; in his experience relapse invariably occurred if reliance was placed upon such methods alone, but when the patients had been made accessible to psycho-analysis and treated over a long period—a year or more—subsequent relapse might be avoided. Many of the patients themselves were acutely aware that physical methods alone meant ultimate relapse. It was an advantage in securing the patient's co-operation if he knew that psycho-analytical methods were undertaken to support the favourable results of the physical therapy.

Dr. IRENE YATES said that there were difficulties in treating patients in the wards, but with patience and strict honesty in approach they could be overcome. The psycho-analyst must be prepared to explain to the patient why he was doing certain things. Respect should be paid also to the patient's own "tempo" both in hospital management and in psychological treatment. The patient himself would often tell one what to do and what not to do. "I feel as if I had been run over

by a train," said one woman, "and cut to pieces. Leave me alone in bed and I shall come together." Matters should be allowed to unfold slowly, the psychotic patient being allowed to talk his own language, and the analyst talking that language too.

Dr. C. R. BIRNIE said that in the treatment of psychotic patients by psycho-analysis a more active type of therapy was necessary than was usually countenanced by the Freudian school. A point to be borne in mind was that in the attempted psycho-analytical treatment of patients in mental hospitals the situation was liable to become complicated because in the fantasy of the patient the nurse might become the "mother" or "sister" as the case might be. It was very desirable, therefore, to have mental hospital nurses who could appreciate the psycho-analytical view.

Dr. E. H. ROSENBERG said that the use of the psycho-analytical method of investigation would throw light on a number of problems. It was important in psychotic illness to make some estimate of how far the morbid process was capable of arrest. She regretted that the discussion had not emphasized more the administrative difficulty which arose in treating hospital in-patients.

Dr. E. BIERER said that in modern mental hospitals psycho-analytical principles had been understood for many years, and he thought the openers had been preaching to the converted. Dr. Stengel had criticized the "short" method, but how was it possible to apply in practice in a mental hospital the full unabridged Freudian analysis?

Change of Attitude

Sir DAVID HENDERSON, the President, said that while the attitude of psychiatry might have changed, that of psycho-analysis had changed also. Psycho-analysts had developed a philosophy which was of extreme importance, but viewed as a therapeutic procedure he had no hesitation in saying that there was still wanting a technique which would give results in mental hospitals. Psycho-analysis as a therapeutic measure in mental hospitals had not justified itself to the extent that had been hoped. He was not gainsaying the contribution which Freud and others, including in this country Ernest Jones and Edward Glover, had made to the knowledge and understanding of the personal equation, but he still believed that from the point of view of therapy, taking it all through, it was a most disappointing procedure. Dr. Stengel was trying to get the best of both worlds, suggesting that physical and psycho-analytical methods needed all to be balanced up together. The plea for such integration was certainly significant of a change of attitude.

Dr. RICKMAN, in reply, said that if short methods were employed in mental hospitals they should be carried out only by those who were trained and kept refreshed in full psycho-analysis. Dr. STENGEL thought that those who practised the short treatment should call themselves psychotherapists; there was nothing wrong in the name. Dr. CLIFFORD SCOTT also urged that only those who had had experience of psycho-analysis extending over a long period should be permitted to use the abridged treatment.

AETIOLOGY OF INFLUENZA AND THE COMMON COLD

A meeting of the Medical Society of London on March 8 was devoted to a discussion of the aetiology of influenza and the common cold. Mr. W. E. TANNER, the president, was in the chair.

Dr. CHRISTOPHER H. ANDREWES, F.R.S., said that such a discussion must take note of a number of upper respiratory diseases among which influenza and the common cold stood out more or less clearly. The others included the affection unfortunately named atypical pneumonia and febrile catarrh, which the Americans had recently been referring to as undifferentiated acute respiratory disease, or "A.R.D." This was an infection usually febrile, more severe than the common cold, and probably having as one of its manifestations an exudative pharyngitis and tonsillitis with which streptococci were not associated; its incubation period was apparently five to seven days.

Epidemic influenza might be caused by one or other of two serologically unrelated viruses known as A and B. There was good reason for thinking that they covered most of the epidemics, though in some epidemics it might be difficult to demonstrate the presence of either of them. He exhibited a chart prepared by Dr. S. D. Collins, of the U.S. Public Health Service, showing the distribution of outbreaks of influenza from 1920 to 1943. The distribution appeared to be entirely irregular until it was recognized that there were two viruses concerned. Immunity to virus B lasted rather longer than immunity to virus A. Outbreaks of influenza in which virus A was concerned might be said to occur in a two or three years' cycle, whereas those in which the aetiological agent was virus B occurred in a cycle of four to six years, but it was not yet known why epidemics arose when they did. The irregularities in epidemics might be explained by variation in the antigenic structure of the virus, and when a little more was known about its structure it might be possible to predict epidemics with more certainty.

Certain evidence suggested that a new strain of influenza might travel about from country to country. A recent paper by M. D. Eaton (*California Medicine*, 1947, **67**, 234) in which the seasonal incidence and geographical location of outbreaks were discussed made it difficult to avoid the conclusion that A and B viruses travelled about the world. The World Health Organization had established an influenza centre which would receive strains from laboratories in all countries, compare them antigenically, and try to build up a picture of influenza as a world-wide phenomenon. It was possible that the pandemic of 1918–19 was not peculiar in its rapid spread all over the world; in other years epidemics might spread with equal rapidity, though with less virulence. Immunization against influenza looked promising two years ago with good results reported from the United States, but last year there was complete failure both in the United States and in this country. This failure was probably due to the appearance of a variant of influenza A, antigenically remote from the strains used to make the vaccine.

Common Cold

Much less was known about the aetiological agent of the common cold. It was possible to transmit colds to human volunteers with filtrates from the nasal washings of cold sufferers. Dr. Andrewes spoke of the results of such transmission to volunteers at the Common Cold Research Unit at Harvard Hospital, Salisbury. Filtrates produced in about half the subjects symptoms of varying degrees of severity, from the really "heavy" cold to something which could hardly be called a cold at all; 50% of the subjects were immune. It was believed that they had succeeded in transmitting colds in series from one person to another, and therefore some confidence was felt that the agent was a virus. He had an open mind on the question whether certain colds might be due not to a filtrable agent but to bacteria—whether there might not be the "pneumococcal colds" of which their bacteriological colleagues spoke.

The incubation period in the production of a cold was, as a rule, two or three days, though this was in curious contrast to some reports from America, where quite a number of different groups had recorded incubation periods of less than twenty-four hours. It seemed fairly certain that the mere bringing together of the virus and the susceptible person was not enough to produce a cold. It was not known what the other factors were nor how important they might be. Was it possible that a great many people carried the aetiological agent of a cold in their noses until something happened to upset the balance between host and parasite and a cold followed? He had no doubt that specific immunity did play a part, but he also had the feeling that non-specific factors might dominate the situation in this country. Efforts to grow the virus in eggs and to infect experimental animals were continuing, but the whole picture remained for the present highly confused.

Epidemiological Characteristics

Prof. C. H. STUART-HARRIS said that of the group of respiratory tract disorders only two were sufficiently defined—namely, the common cold and influenza. The common cold could be described as a relatively trivial ailment, usually afebrile, but

certainly one of the most troublesome that afflicted mankind. Many conditions had been grouped under "influenza." At least four different entities, partial entities, or syndromes were recognized—influenza, the common cold, febrile catarrh, and atypical pneumonia. Since the viruses of influenza were most accessible to study, more was known about them. Influenzas A and B, though clinically indistinguishable, corresponded reasonably closely with what was reported of past epidemics. There was no reason to think that the two were dependent on each other or connected in the immunological sense. During the last fifteen years there had been three fair-sized epidemics of influenza A, and in between there had been certain "rumblings" and occasionally rather sharp waves due to influenza A or sometimes to influenza B, and now and then influenza B predominated. The cycle of two or three years had been fairly well obeyed by influenza A; the cycle of four to six years for influenza B had been obeyed in the States, but less certainly in this country. The clinical picture was relatively uniform, the emphasis always being on symptoms of a general febrile character—headache, shivering, malaise, and anorexia. Among respiratory symptoms cough was most frequent; the coryza was not to be confused with that attending the streaming cold. In any outbreak, and particularly in the years of localized outbreaks, a proportion of cases did not yield serological evidence of either virus. It was characteristic of most outbreaks of influenza that the cases remained uncomplicated.

Febrile Catarrh

Localized outbreaks of febrile catarrh, Prof. Stuart-Harris continued, had been recorded frequently in the past, and cultures had been shown not to yield influenza virus. No one had yet succeeded in recovering the aetiological agent in this disease, but there were certain broad facts about febrile catarrh which were interesting and justified the view that it was a distinct entity or group of entities. In an Army camp it was found specially to attack the new recruits; the incidence among the seasoned troops was much lower. On the other hand, the seasoned troops were attacked by influenza. Most cases of influenza came on quite suddenly, whereas febrile catarrh had much less commonly an acute onset, usually starting with a little cough or cold, the fever coming on a day or two later. Sore throat, hoarse voice, and substernal chest pain were common. But the clinical picture of febrile catarrh was not uniform and some cases resembled streptococcal tonsillitis. As for atypical pneumonia, this was relatively rare in Great Britain, and there were only sporadic cases among British troops during the war at a time when the Americans were experiencing considerable outbreaks.

Secondary Invaders

Dr. FREDDY HIMMELWEIT said that a number of pathogenic organisms, and especially pneumococci, had been looked upon, ever since the discovery of the influenza virus, as secondary invaders, responsible only for complications which might vary from individual to individual and from epidemic to epidemic. In his view, however, these secondary invaders might not only aggravate the primary infection but play an essential part in causation. He believed that they facilitated infection by the virus by destroying the inhibiting action of the mucin of the upper respiratory tract.

The discussion, in which Sir JAMES WALTON, Dr. WILFRID OAKLEY, Dr. GEORGE GRAHAM, and Dr. CARLYLE LYON took part, resolved itself largely into a recital of personal experiences in combating colds. Sir James Walton said that he had found *Strep. viridans* vaccine highly protective. Mr. V. E. NEGUS mentioned nasal defence. The reason why some people never had colds was because of the efficiency of their ciliated epithelium. The cilia were very resistant, but could not work without a covering of mucus.

Dr. J. B. W. ROWE suggested that in the case of the people of Spitsbergen, who were said to get infection only when the ships visited the island in the summer and to be free from colds during their isolated state in the winter, the reason for the manifestation might be the change of diet which followed the arrival of the ships with food. Some allergic factor might play a part in the aetiology of the cold. Dr. W. H. BRADLEY remarked that the winter of 1947–8 had been phenomenal in the fact that deaths from influenza had been the lowest on record and deaths from pneumonia much lower than usual. On the suggestion just made, was it possible that this had anything to do with the food we had not eaten? Mr. JOHN BUNYAN said that a large number of people suffered from gingivitis, which might afford a foothold for the invasion of the virus.

Dr. ANDREWES, replying to the discussion, said that Dr. Himmelweit's theory needed a good deal of further consideration before it could be accepted. He did not think at this stage they could justifiably reverse their opinion on the relative parts played by the virus and bacteria in causing these infections. The one thing that was clear about vaccines was that many people placed implicit faith in them. In the United States a mixed catarrhal vaccine was given to a number of students and records were made of the incidence of colds among them during the following year. Of those who received the vaccine 55% reported benefit. But a corresponding number had received not the vaccine but a saline injection, and an even larger proportion of these students reported benefit, and some of them wrote to the doctors concerned asking whether they could be told, in confidence, the formula of the preparation which had proved so effective.

CONTROL OF POST-PARTUM HAEMORRHAGE

A meeting of the North of England Obstetrical and Gynaecological Society was held in Manchester on Feb. 6 with the president, Mr. J. E. STACEY, in the chair.

Mr. K. V. BAILEY (Manchester) showed a film illustrating a safe manœuvre for stimulating the uterus to retract in cases of third stage and post-partum haemorrhage, and also an additional method of infant resuscitation. After mentioning the dangers and disadvantages of the usual methods of controlling the uterus, of fundal massage, and of expression of the placenta, Mr. Bailey demonstrated a method of stimulating the uterus by gentle stretching of the lower segment which was achieved by stroking the uterus upwards with the ulnar border of the hand. In some cases when the infant required resuscitation he advocated laying it face downwards on the palm of the left hand with its head hanging down to drain the air passages. Artificial respiration was achieved by throwing the whole child upwards for about three-quarters of an inch, inspiration being encouraged during its "flight" and expiration when it settled back on the hand. Both procedures were discussed by several members of the society, and there was general agreement that stretching of the lower segment by various methods was of value in the control of post-partum haemorrhage.

Dr. S. BENDER (Liverpool) discussed a case which presented as tuberculosis of the cervix and which macroscopically resembled carcinoma of the cervix. Dr. A. A. GEMMELL (Liverpool) described a case of fibroid in the cervical stump after subtotal hysterectomy. Six other published reports of this condition were discussed, and Dr. Gemmell suggested that incomplete removal of ovarian tissue at the time of hysterectomy might favour the subsequent development of fibroids in the cervix, and that the rapid growth which appears to be a feature of these fibroids might be due to early degenerative changes consequent upon a poor blood supply. Finally Prof. D. DOUGAL (Manchester) gave an account of an interesting case of carcinoma of the body of the uterus and fibroids treated with radium and subsequently by hysterectomy.

The sixth and final dinner meeting of the 1948 session of the Chelsea Clinical Society was held on March 9 at the South Kensington Hotel, with the president, Dr. Neil Maclay, in the chair. There were nearly a hundred members and visitors present to hear a discussion on "Medical Experiments in Nazi Camps" opened by Major A. Keith Mant, R.A.M.C., whose work with the British War Crimes Commission made his contribution particularly valuable. An interesting discussion ensued in which Dr. Pitts, Mr. Gwynne Evans, Dr. Stuart Webb, and Dr. Eckenstein joined, and finally Major Mant replied. The annual dinner of the society will be held on May 11.

Correspondence

Bad for the Public

SIR,—None can tell for certain what made so very many in the profession say "No" in the plebiscite, but I am quite unable to believe that it was no more than zealous support for the Association's four points or even their immediate implications. There must be many besides me whose hopes, raised a little by that impressive demonstration of unity, will fall below zero unless the declared basis of our objection is broadened and deepened.

I believe the majority was so great partly because a free profession, with a great record of service in peace and war and almost a monopoly in knowledge and understanding of medicine, has been treated as so much technical labour, and partly because it sincerely believes the Act to be in many fundamental respects a disastrous blunder. Mr. Bevan rightly observes that our quarrel is not at bottom with him : it is with the plan, and it goes back to the start. No Royal Commission, invited to examine the country's medical services and to plan their extension and ultimate perfection, could ever have recommended anything like this Act. It has never been a single-minded endeavour to give the people first-class medical care—let alone health. It has been from the outset largely concerned to implement "Assumption B" on an appointed day and to equalize medical attention regardless of quality. Its motives and ideals are not medical or hygienic but political.

The result is a plan which bids fair to reserve the practice of real medicine and surgery to the hospitals, while outside the practitioner plays his part in the ordering, repeating, and dispensing of medicines, the directing to specialists, and above all in that "careful certification" of the Beveridge report.

Mr. Bevan does not blush to suggest that we take on 4,000 or more potential patients—blind, seemingly, to the fact that he who does so must bid farewell to the practice of medicine. No reward is offered for work performed or for excellence of any kind. Good honest private practice is made as difficult as possible. Charlatanism is, to put it mildly, in no way discouraged, and the temptation to see other men's patients behind their backs is greatly increased. Collective bargaining and trade unionism, alien to a free profession, clearly await us. None of the benefits the practitioner might have hoped for—ancillary services at call and better access to hospitals—is to be his, at least for years to come. Even the queerly named "health centre" is indefinitely postponed. Finally, we are to be involved in a fiasco—the opening of a non-existent show for which all have been compelled to buy tickets.

All this is at least as bad for the public as for us. What is bad for medicine and for the doctor cannot be good for a medical service and those it serves, nor can it be supposed to be good for the credit of Parliament or the Government. The profession has expressed disapproval of the Act, and I believe it means what it says. The Act is bad. To have a stand-up fight about it on four points, none of which touches the quality of medical practice or the place and function of the general practitioner in the projected service, seems to show a distaste for facing realities almost equal to that of Parliament itself. The whole future of medicine is at stake. Are we not strong enough and brave enough to demand postponement of the relative parts of the Act and a constructive reconsideration of the medical service on a medical basis ?—I am, etc.,

London, N.W.3. LINDSEY W. BATTEN.

Freedom of Consultants

SIR,—The professional freedom of consultants is vital to the public, for it is to consultants that disputed points of certification and other questions of controversy are ultimately referred. Great play has in the past been made of the desirability of a detached position for the Royal Colleges from which they may descend in order to inaugurate a compromise between the Minister on the one hand and the B.M.A. on the other. This argument is allowable so long as questions of principle are not involved, but no man with a true respect for the integrity of medicine will compromise upon this vital point of consultant freedom.

The political mind is distinguished from the scientific mind by its blind spot where principles are concerned and its obsession with manipulation and manœuvre. All actions and statements at the present juncture must be judged by the profession on this issue of principle and on this alone.—I am, etc.,

London, W.1. GEOFFREY BOURNE.

The Minister's Confusion

SIR,—The statement recently made in Parliament (Feb. 9) by the Minister of Health shows a deplorable ignorance of what precisely is entailed in the sale of goodwill of a medical practice (see *Journal*, Feb. 14, p. 323 : "The Government regarded it as inconsistent with a civilized community and a reasonable health service *for patients to be bought and sold* (my italics). That existed in no other country, and was a blot on our medical system. . . . So far as the Government was concerned there could not be any question that the health service must not contain the buying and selling of public practices").

Apparently the Minister still confuses the buying and selling of a farm (where the cows, pigs, hens, etc., even if dissatisfied with the newcomer, are *not* free to select another farmer) with the buying and selling of the *goodwill* of a medical practice (where the patients, if dissatisfied with the newcomer, are quite free to select another doctor). It must be stressed that *no* patients are in any way bought or sold. It is merely the *goodwill*—i.e., the probability (no more) that a proportion, perhaps 66–90% of the patients of the retiring doctor will give the incoming doctor a trial (and then not necessarily remain one of his patients). Private patients remain free, as always, to change their doctor at will. Panel patients are actually informed officially of the change in practice, and they are therefore at liberty to select a new doctor within the next month; and after that time they can of course change in accordance with N.H.I. regulations.

The Minister's statement was made, presumably after due forethought, in opening a Parliamentary debate. It was not subsequently retracted or modified. It was made by the Minister, who has held office—the same office—for two and half years, and therefore has had ample time to discover the true facts. Indeed it was his bounden duty so to do before initiating the N.H.S. Act. He has failed in this duty.

Owing to his confusing the buying and selling of the goodwill of a medical practice with the buying and selling of patients he has misled himself and Parliament. He has piloted an Act through Parliament based on his misunderstanding of a fundamental principle. In consequence of his error many provisions (which would otherwise have hardly seemed necessary) have been incorporated in the Act, or regulations to be made under it, which are repugnant to a big majority of the medical profession.

If the Minister could clearly grasp this fundamental distinction then his objections to the buying and selling of goodwill might well be overcome, and he could then explain to Parliament that he had misled them and recommend that the amendments so earnestly desired by the profession be reconsidered.

If the right to sell goodwill remains, the severe penal clauses designed to prevent concealed sale of goodwill, ambiguity over partnership agreements, direction (or negative direction), and perhaps even basic salary (for the main admitted object of this is to enable a doctor to subsist while building up a practice) —all these difficulties would be settled. This would leave only the question of appeal to the courts, the equitable implementation of the Spens Report, and freedom to publish to be settled.

Regarding appeal to the courts, I feel that under the Act as it stands injustice to any practitioner is unlikely. Nevertheless it is hard to see why the Minister should object to the findings of the Executive Committee and of his Tribunal being challenged in the High Court. If the proceedings in these investigations have been fairly conducted and a just verdict passed, then surely the High Court will merely confirm the decision; and if the decision is reversed then there must at least be doubt about the practitioner's guilt. The Minister's refusal to allow appeal to the Courts suggests that he is not really so sure of justice being done by the Executive Committee and Tribunal.

I consider freedom to publish letters, articles, or books on all medical matters (including clinical subjects and the organization and administration of the Health Service) without having to seek permission from individuals or authorities should be specifically incorporated in the amending Act of Parliament. Mr. Bevan's reply on Feb. 12 to Col. Stoddard-Scott on this subject appears inadequate, as it is not binding on his subordinates or successors.

Regarding remuneration, though a capitation fee is not intolerable I personally would prefer payment per item of service —thus resembling private practice, which is usually preferred by patient and doctor alike. Also it might diminish unnecessary work inflicted on doctors by Government authorities. If the Treasury had to pay, say, 3s. 6d. for a consultation and 1s. for a certificate each time a hyperthyroid patient had to see the doctor for no reason other than a renewal of a milk priority it might soon be found possible to require these at longer than one-monthly intervals. Or a "repeat medicine as required" prescription might after all be acceptable for mag. trisil. co., etc., for a gastric-ulcer patient or insulin for a diabetic. Nor might a doctor's consultation be necessary to confirm addiction to tobacco.

It is generally conceded that in the past private practice has partly subsidized panel and club practice. Now it seems likely our income will be reduced by 10–25%, our expenses increased by 5–10%, and our work increased by 10–25%. This is hardly as recommended by the Spens Committee.—I am, etc.,

Rugby. R. PRESTON HENDRY.

Leavening the Commonplace Mind

SIR,—It is not clear from the last paragraph of Dr. F. M. R. Walshe's excellent letter (Feb. 28, p. 407) whether he advocates a firm stand against the National Health Act in its present form or against any change in the *status quo*. That the latter is the more probable is suggested by his reference to "a retrograde political ideology" and later "a ruthless and levelling force" which must be resisted. The pleasure engendered by the force and clarity of his exposition of "first things first" is apt to lull us into accepting not only the diagnosis, with which few of us could disagree, but also the treatment prescribed.

Wilfred Trotter said (*Journal*, July 17, 1926): "In biological inquiry an abstract conception, though professedly no more than a convenient summary of experience and constantly subject to the censorship of facts, is apt to acquire a quasi-vitality of its own through which it loses its immediate dependence on experience and comes to dominate instead of serving. The danger arises not so much from the extreme cases of conceptions which easily show as flagrantly inconsistent with facts but from ideas primarily good and sound which have been endowed with a prestige that in their very nature they could not deserve." If we take the liberty of substituting the word "sociological" for "biological" we find these remarks most apt to the present trend of events.

Socialism, though originating from "ideas primarily good" appears to-day to be an abstract conception flagrantly impervious to the censorship of at least some of the facts, one such being the impossibility of "nationalizing conscience." It certainly appears in our own case to promise to dominate the profession rather than serve the community. We are tempted to believe, therefore, in our moral obligation to resist what Dr. Walshe describes as "a ruthless and levelling force" and what I have somewhat euphemistically called a "trend of events."

In filling in my plebiscite form I found myself on the verge of signifying approval, for though as it stands the Act contains many apparent and real injustices, incongruities, and absurdities which automatically make us revolt against it I had to confess that I found in it nothing iniquitous (using the word in its worst interpretation) except the extent of the power with which the Minister is to be endowed. It cannot be said that the present state of medicine from the patients' point of view contains no iniquities. However, the Minister's future power coupled with his recent provocative manner finally overcame my fear that the profession by its disapprobation might amend the Act out of existence.

If socialist ideology is an abstract conception which has acquired "a quasi-vitality of its own through which it has come to dominate instead of serve," the same may be said of our conception of the *status quo ante* which we call free enterprise. I do not deny that free enterprise is in itself an "idea primarily good," but it is a system in which its advocates also ignore the censorship of facts, the most important of which is the monotonous recurrence of war with its attendant "corpses, cripples, rags, smithereens, and ruination," to use a phrase of Shaw's.

Though evolution is another abstract conception, one of its component experiences is the relentless revolt of the masses, which to-day faces us with concrete reality. I believe this revolt to be primarily directed against social injustice and the power of money. I believe this "levelling down" process, which feature of the revolt must be repudiated by the professional classes, is due, first, to a failure by the masses to distinguish between the hereditary money owner and excessively rewarded shareholder on the one hand and the successful business man or talented professional man on the other; secondly, it is due to a failure by the latter to recognize against whom the revolt is really directed.

It would appear, therefore, that two extremes of action present themselves for our choice. We can be reactionary and strive for an indefinite postponement of this Act or we can, after fighting for the four main amendments, accept the "inevitable" grudgingly and with docility. The former reaction would eventually be crushed by public opinion, the latter would show an inertia which, if followed by other sections of the community, would lead to communism as we now see it. Both lines of action would result in the death of the ethics, integrity, and intellectual freedom of the medical profession, the one murder, the other suicide.

I submit that there is a middle course capable of acquiring a real vitality of its own which would in time endow the medical profession with the prestige it could so richly deserve. In other words the future health service is going to be what we make of it. I suggest we exceed our present demands and insist on an altered executive whereby the profession would be more adequately represented and the supreme authority a council rather than one man. A united and contented profession with security for its own unassailable freedom, guaranteed by law, would be potentially the greatest power for good that this country has seen for a century. The "qualities of rare excellence" will be capable of removing the "imperfections" only through the medium of a comprehensive service. It is up to the profession as a specialized minority to reassert its place as an influential unit in the mass rather than submit to virtual extinction by fighting to the death outside it or by resignation. The commonplace mind is in dire need of good leaven. This must come from within.—I am, etc.,

Liverpool, 17. ARTHUR S. WIGFIELD.

Adulation

SIR,—The general impression given by the very long letter from Dr. Stephen Taylor (March 6, p. 463) referring to the present Minister of Health repeats the phrase "but for him . . ." no less than three times in a single paragraph, which ends with the pompous phrase, "in battle, he will neither give nor ask for quarter."

Dr. Taylor's sincere but fulsome adulation of Mr. Bevan as a hero almost implies that this Minister can do no wrong and that it is really rather wicked even to criticize him and at least a mild misdemeanour to hold a different opinion from his own. This quasi-religious tone applied to a Minister who, after all, is merely a man and a politician is as absurd as it is irritating and displays the sort of attitude which, carried to an extreme, might lead to the suggestion that a portrait of Mr. Bevan be placed upon the wall of every doctor's surgery. If we are to indulge in idolatrous adulation let us think of men and women who have been of some real service to the science and art of medicine.—I am, etc.,

London, W.4. JOHN C. C. LANGFORD.

Why Compulsion?

SIR,—"If you declare war, you will lose." Dr. Stephen Taylor (March 6, p. 463) is, on his own admission, a Labour M.P. "who happens also to be a doctor" [*sic*] and his prediction can be relegated to the category of propaganda of the "inevitable, bound-to-come" type to which Labour-Socialists are so addicted (cp. Dr. Stark Murray: "We are *unquestionably* going to have a Service which is free at the time of use"). It is sufficient to point out that the Australian medical profession in similar circumstances has successfully rejected a comparable Act.

His instance of the General Strike of 1926 is singularly unfortunate from the point of view of his argument. That event was an attempt by direct action to subvert the British Constitution and overthrow Magna Carta in favour of a dictatorship of the proletariat. It failed through the common sense of the British

people. The National Health Service is a more subtle attempt to achieve the same end by fifth-columnry masquerading under the guise of constitutional methods; and please God it will fail also. If that is an incorrect reading of the situation, why the need for compulsion? Why is the patient denied the right to contract out of the Service? We are asked to believe at one and the same time (1) that this Act represents the will of the people, and (2) that the people must be coerced into it by the methods of totalitarian compulsion we have seen in action in Nazi Germany. We are told that the Service would not pay financially unless everyone contributed; that is to say, it cannot stand on its own feet by its own merits but has to be bolstered up by force. A "great Health Service" indeed! It stands utterly condemned out of the mouths of its own protagonists.—I am, etc.,

St. Germans, Cornwall. W. H. SPOOR.

Change the Appointed Day

SIR,—Dr. C. H. Barber (March 6, p. 472) may find it alarming that so many of his confrères are dispassionately analysing the main points of difference between the Negotiating Committee and the Minister and finding themselves lacking that zeal for self-immolation which apparently animates him and the majority, but it is a factor with which he and they must reckon. Truly the points of difference are not the expression of sacred principles at all, but only the expressions of a desire, which is widespread in the profession, to avoid a full-time salaried service. This could equally well be achieved by adopting some face-saving formula such as that suggested by Dr. Joan Wagstaff (Feb. 21, p. 358)—namely, that the basic salary be designated an "expenses allowance" and that amending legislation be introduced to limit the Minister's power to vary this above the ceiling limit of such reasonably agreed minimum expenses as every doctor must incur. Dr. A. C. Mowle well says (March 6, p. 468) that this is the only point on principle which the Government can concede, and it will save the face equally of the Minister and the B.M.A.

I am not at all clear whether the wording of the resolution to be put forward to the Representative Body by the Council (*Supplement*, Feb. 28, p. 29) is intended as an ultimatum to the Government, or whether it is intended as an olive branch to procure reopening of negotiations. If the latter, as I hope, may I suggest that it would be more helpful and more in accord with the hope of a settlement if the final clause were deleted and the Government simply invited to make it possible for the profession to co-operate in the new Health Service by making certain changes by the appointed day? I have no desire to preach, but neither have I any intention of allowing my pig-headedness to start me charging down a slope into the sea.—I am, etc.,

South Molton, Devon. R. A. NASH.

Monotonous Repetition

SIR,—Thanks to Mr. Colm Brogan's article (Jan. 31, p. 209) even the merest tyro in politics can see his predictions being fulfilled in the arguments of favoured Labour M.P.s. Dr. Stephen Taylor's letter (March 6, p. 463) may seem mild in tone, but the Hitlerite method is there for all to see. The main point is to keep telling your adversary with monotonous reiteration that he is bound to fail, and that resistance is therefore useless. By this tactic the enemy hopes to secure victory without a battle. I quote the relevant tactical repetitions from Dr. Stephen Taylor's letter. (1) "Any attempt to frustrate the law by extra-parliamentary means is bound to end in failure." (2) "In battle, he [Mr. Bevan] will neither give nor ask for quarter" (this to frighten the enemy). (3) "If the B.M.A. decides to continue the fight, *the public will be gravely injured* [*sic*] . . . and the ultimate defeat of the B.M.A. is certain." (4) He assumes that the public are entirely with the Socialist Party, and say that "for the public, defeat of the B.M.A. is certainly preferable to capitulation of Government and Parliament to the B.M.A." (5) "If you declare war, you will lose."

It seems that no Government has ever been holier than the present Government. No one was holier than Hitler. No German wanted to see Hitler defeated. No one in Britain wants to see the present Government defeated! It is worth reminding Dr. Stephen Taylor and Mr. Bevan that in Australia the doctors defeated the Socialist Government by refusing their services to the Government. The public did not suffer gravely. The doctor's prime duty is to serve his patients, and we can serve them and utterly ignore the efforts of the State to enter within the doctor–patient relationship.

In the General Strike of 1926 the workers who struck received no pay, because they were entirely dependent on payment from employers or the State, when strike-pay ran out. This was the lesson that the arrogant T.U.C. and the Labour Party learnt. The strike fizzled out in 11 days. Cardinal Bourne spoke against the immorality of the strike, which imposed considerable hardship on practically all the people in the country merely because the T.U.C. wished to gain their points.

We have the moral right to stay out of this Socialist State Service, and to keep the State from interfering in the doctor–patient relationship, by possessing our souls, our consulting rooms, and our practices. We shall still serve our patients, even if we have to treat them all as private patients. If we hold firm the State will have to climb down.—I am, etc.,

Slough. N. C. HYPHER.

Freedom of G.P.s

SIR,—It is rumoured that the Negotiating Committee will have to capitulate on the right to buy and sell the goodwill of medical practices because they will not receive the support of the Opposition in the House of Commons. If this rumour is correct, and if this attitude is going to be adopted by the profession at large, let me say most emphatically that it is a wrong attitude. We must realize now, and more especially with the result of the recent plebiscite in front of us, that we must press for an amendment of the Act as a united profession, and not rely on the support of any political party—we must be prepared to oppose the Opposition if necessary.

The whole of our freedom as general practitioners is at stake, and do not let us forget, especially those of us who are practising in congenial areas, that the freedom of the junior and future general practitioner is also at stake. The right to buy and sell the goodwill of our practices is the keystone on which our professional liberty is built. Surrender this and we have direction—negative direction, they say, but still direction. So long as we retain this right we can go where we like, practise where we like and are liked, and we can choose our successor to take over a practice which we have built up by our own efforts and which is very dear to us.

Take the case of a doctor who has worked hard for ten to fifteen years in a busy industrial area and then wishes to take a smaller and more congenial practice in another district. What chance will he have? In theory, as much chance as anyone else, but in actual practice not an earthly chance. And then there is the case of the doctor who will want to move to a better type of practice. How is this going to be attained? Suppose the owner of the practice dies—are we going to have compulsory billeting of the newcomer on the widow until he can find a house to practise from? To pursue the matter further, if the sale of goodwill is abolished it will ultimately lead to the direction of the patient to other doctors who are less successful, because in any practice—be it private or State—there will always be goodwill, for each doctor will always attract a certain type of patient and repel another. If one wants to take a suitable partner or assistant, must this also be decided by the Medical Practices Committee?

The Negotiating Committee and the medical profession must not agree to the abolition of the buying and sale of goodwill, for if they do our freedom as general practitioners will go and we will become members of a full-time State medical service, be it Labour or Conservative in origin, and payment by basic salary or capitation fee and the right to appeal to the courts will mean nothing. We will be State servants and our future movements will be controlled by the State.

During the next few months we have a heavy responsibility, but we must shoulder it ourselves and realize that in so doing, in addition to preserving our own liberty, we are fighting for the freedom of our patients. Do let us remain united and not be side-tracked by fears which are without foundation. Tell the public what we stand for and we will have their support. All the individual patient is interested in meantime is—"Am I going to be allowed to retain my own doctor?"—I am, etc.,

Aberdeen. DUNCAN MCLELLAN.

A Fantasy in One Act

SIR,—May I call attention to the problem of the well-established G.P. of twenty or thirty years' standing, with a panel—usually built up, not bought—of under a thousand? Not on principle, not for politics, but from purely practical considerations many of these doctors must refuse service under the Act.

If the Service does not mean more attention for more people, it is not needed at all. If it does, the busy doctor and his harassed wife and household, already pestered from 8.30 a.m. to 11.30 p.m. with 'phone, bell, and messages, apart from night emergencies, already bolting meals almost invariably interrupted, already struggling with inadequate assistance to keep the house warm and clean—if it does, I say, the hunted leisureless doctor and his unpaid self-sacrificing wife must say "No" before coronary thrombosis says it for them. An eighty-hour working week and twenty-four-hour seven-day duty do not call for more sacrifice on the part of the doctors and their families but for some amelioration of their conditions of work. If the scheme is started before clinics are available to halve the doctors' clinical and administrative work it will prove a fantasy in one act, and, far from giving more doctors to the people, must deprive them of the services of some doctors who have so far been found sufficiently satisfactory to make them intolerably overworked.—I am, etc.,

London, N.8. JOHN RUBRA.

State Control

SIR,—Now that the medical profession have shown by an overwhelming majority by the plebiscite that they reject the proposed service it is to be hoped that a repetition of 1912 will not occur and that some doctors will not, as the Cabinet puts it, "break away" and become blacklegs to the cause.

In the present panel system prescribing is done by a formulary, and, should a doctor order a proprietary preparation which to his own satisfaction and with his experience he has found to give better results than mist. A.B. or pil. X set out in the National Health *Formulary*, he will be a lucky man if the hand of authority does not descend on his head and an admonition given telling him he must not write his own prescription when mist. A.B. or pil. X is in the *Formulary* and would do. His independence to practise where he so wishes is taken away and he would merely become a slave to the supply and demand of a specified area. Has such a state of affairs ever been known in the history of medicine? Again, even if there was a right of appeal, to whom could the doctor appeal? The courts of law could only deal with appeals on a point of law—viz., interpretation of the Act—and should a special tribunal be appointed the odds are on the members of the same striving to uphold the Minister's decision.

Again, the doctors are offered "compensation." Was not the whole country promised payments of our post-war credits when hostilities ceased? Have we received them? If the present economic crisis—as it is doing—gets deeper and deeper into the morass, we will no doubt say "goodbye" to the payment of these credits. What guarantee can we possibly have of receiving compensation for our practices, etc.?

Mr. Bevan believes doctors will be discouraged by means of the basic fee from taking too many patients. Take a look at the present panel lists. A doctor is allowed 2,500 panel patients and another 1,500 if he has an assistant. In purely or mostly panel practices where the doctor has a full panel the number of patients the same doctor will have under the Health Scheme is at least 7,500 (allowing one wife and one child on the average for each insured patient). Even if the remuneration is alluring with such a number, can any doctor honestly say that he can give a first-class service to 7,500 souls, or be expected to do so? Such is impossible.

Let Mr. Bevan start his Service on July 5 with his 4,100 doctors, but let all those doctors who have now voted against the scheme stand fast by their guns, because no one, nothing, can survive that battery of power which the doctors have at their disposal. After July 5 let the doctors carry on on the present basis. Let them say openly to the patient, "I am not in the Service; I will treat you; you pay me and send the account to the State if you wish."

Those who insist on State attention will go to one of the 4,100, but it will not be many days before they return to their original practitioner. But if the doctors *en masse* should ever once give any form of free treatment once the scheme comes into being, then the purpose for which we have voted and all the efforts of the B.M.A. on behalf of the profession will truly be wasted.—I am, etc.,

London, E.C.4. C. ST. J. DE VERE SHORTT, Barrister-at-Law.

The Plebiscite Results

SIR,—Let no one be deceived by Mr. Aleck Bourne's plea (March 6, p. 464) to overlook the results of the plebiscite. I for one would be disappointed to feel that the value of my vote and the long considerations which preceded it had been rendered void as a result of his letter. He can hardly be so optimistic as to expect his attempt to be anything but in vain. His appeal to minimize the value of its results is to be regarded as anything but a compliment to 56,000 practitioners who have given much time, thought, and worry to the whole problem. Mr. Bourne might with equal hope attempt to throw doubt on the reliability of the maternal and infant mortality rate, but in these instances he would be on surer and firmer ground by reason of his special qualification and experience. No! Mr. Bourne's insinuations will assuredly fall off us as water off a duck's back, and his observations can perhaps best be described in the words of Benjamin Disraeli as "a chaotic mass of heterogeneous inconsistencies."—I am, etc.,

Windsor. PHILIP H. WILLCOX.

G.M.C. to Mediate

SIR,—It is with extreme reluctance that I venture to add to the voluminous correspondence in the *Journal*, but in view of the deadlock now existing between the profession and the Government perhaps there is something in the following suggestion of an elderly practitioner (78) still in general and panel practice. It is that some use be made of the General Medical Council to bring the disputants together. We know that this body is very jealous of the standard of conduct required of all qualified medical practitioners, so why not enlarge its functions and powers to advise the Government in the present crisis as to what course should be adopted to insure the whole-hearted co-operation of the profession to make the National Medical Service a success? If there is anything in this idea of mine I must leave it to others better qualified to consider it. It would at least remove the issue out of the political arena—a very real stumbling-block.—I am, etc.,

Wymondham, Norfolk. ALEX. P. AGNEW.

Active Resistance

SIR,—On April 1 or thereabouts we shall be receiving intimation that N.H.I. will cease and that N.H.S. will take its place on July 5. About this time or shortly afterwards we shall be invited to join the new Service and presumably to accept patients who will be treated under it when it starts. Yet as late as March 17 all the B.M.A. will have done is to offer to the Representative Body a resolution once again asking the Minister very politely whether he will not oblige the profession by reconsidering his attitude.

It has been made more than abundantly clear to most of us that the Minister will not be surprised at this and is ready for it, that he has every intention of starting his Health Service if necessary with only a "skeleton" staff, that he intends to rely on the attraction of an immediate substantial income (for it will be substantial, with so few joining) to draw in any beginners or waverers, and that he has every hope of doubling his numbers in six months and of causing a landslide within a year. I am, for one, heartily disgusted at the lack of vision in submitting a resolution of this kind so late in the day to a person who far from understanding the genuine desire to establish a good health service which lies behind it will only regard it as a sign of weakness on the part of the "old gentlemen of the B.M.A." Surely none can expect any useful purpose will be served putting it to one whose ideas of powerful negotiation are based on strikes, lock-outs, picketing, and so forth. If all the B.M.A. propose to do at this late hour with its overwhelming majority mandate is to pursue this form of passive resistance culminating no doubt in a last-minute advice to the profession not to join the Service then we are fighting a losing battle in which we do not stand a chance. I for one, opposed as I am to the Act, do not propose to throw away the capital value of my practice in the pursuit of such a policy of futile passive resistance.

The sort of resolution I had hoped to see, not on March 17 but at least two weeks earlier, was one regretting the unaltered decision of the Minister to force his measures on the profession in spite of its clearly expressed opinion against them and stating that the B.M.A. would have now no option but to recommend immediate and forceful measures to prevent him doing so. Far from recommending that members who have accepted appointments for various committees should continue with them at present, a date in the very near future (such as a week's time) should have been set for their resignation. A token certificate strike of one week should have been prepared, with a permanent certificate strike to follow if this did not produce results. Prompt resignation from the panel on a named date (irrespective of the three months' notice necessary) should also have been provided for without waiting for intimation on April 1. Breach of contract? Of course it is! Illegal? Quite possibly. But so also are various unofficial strikes which lead the Government to appoint committees to negotiate and arbitrate. Not satisfied with this an invitation to be present at, say, Piccadilly Circus at 2.30 p.m. on some suitable weekday could be issued to the profession, and if any of us felt such a gathering beneath our dignity they might be reassured by the fact that several thousand medical students from the whole of the University of London, to say nothing of a few interested bystanders, would not.

This is the sort of argument that Labour leaders understand, and methods calculated to be effective in a dispute between, say, two faculties of a university can hardly be expected to make any impression on them. If the B.M.A. really means business it will certainly not be afraid to publish this letter. If, as Mr. Bevan thinks, it is going to give in but is only stalling, then I propose to sign on the dotted line, and I want to see action now if I am to refrain from doing so.—I am, etc.,

London, W.9. A. LEWIS.

Confidence Between Practitioners

SIR,—The struggle for freedom in which we are engaged is a serious one, and all our resources will be necessary for success. The issue will depend on the morale of the individual doctor and on his confidence that other doctors will not accept his patients on their lists. This confidence can easily be achieved if local groups get from those general practitioners who are unwilling to undertake not to enter the Service an assurance that they will not accept other doctors' patients on their lists while the fight is on. This assurance will be given by many who will not undertake to keep out of the Service. If this action is taken by local groups all over the country our victory is inevitable.—I am, etc.,

Brockley, S.E.4. WM. A. MACILRATH.

Enter and Improve

SIR,—The Council of the B.M.A., which should be able to speak with authority, believes that it is the whole-hearted desire of the medical profession to have a comprehensive health service available to everyone. The Acts of 1946 and 1947 are supported by all parties in Parliament, although details of these compromise measures are criticized. Our profession also must claim its right to criticize the National Health Service in its conception and operation, and to press for any alterations which it may consider desirable in the interest of the public and the profession. The present strong position of the profession results from its unity. The B.M.A. represents almost the entire profession.

We will weaken our position if we try to prevent the operation of the Acts by advising doctors not to join the Service. Such advice would not be accepted by the whole profession and would destroy our unity, which it is essential to maintain, and would appear to public opinion as an attempt to nullify the decisions of Parliament and so lose us support in our efforts to amend and improve the working of the Service.—I am, etc.,

Orpington, Kent. L. M. FRANKLIN.

Contracting Out of Service

SIR,—It is high time we congratulated the dentists on the stand they are making against the principle of "working down to a price instead of up to a standard," as motor-car makers say. As to ourselves, the Government is trying very hard to make us general practitioners undertake a great addition to the amount of work we do under the contract system. But there is implicit in all work done on this basis a principle disadvantageous to the sick man. The limitation and uniformity of reward tends to limitation of effort on the doctor's part and the elimination of rivalry and every other stimulus to the attainment of an increasing professional efficiency. Lost is "the spur that the clear spirit doth raise"—and more so still for the consultants. Under contract the advantage we derive is from the work we do not do. Our actual work is the burden. By convention we seldom refer to this aspect, and have schooled ourselves not even to think of it. It must have occurred to many that the possession of extra skill may turn out to be a definite drawback to its owner, carrying as it does an added responsibility. His rival who sends the case to hospital will get just the same monetary reward.

I suggest, therefore, that it is high time we made another effort on behalf of that section of the community which has in the past had our services privately. Many of these will wish to do so still, it is fair to assume, and the attempt to coerce them will give rise to a great wave of resentment as soon as they realize the implications of it. These people should be allowed to contract out of that part of the new Service which applies to the function of the G.P.s. The Government will have kept faith when it has provided the Service. That is all it "promised" to do. Compulsion is not only unreasonable but unfair. If applied at all, it should be only to those who are obviously unable to pay privately. Surely the depths of abysmal absurdity are reached when medical men are taxed in order to provide funds from which they are to be paid for doctoring not only each other but their own individual selves! We should add this contracting-out business to the list of principles on which we absolutely refuse to yield. We are under no obligation to give way on any of them. There should be no compromise. Every one of them is essential. No one will argue that it is proper to compromise on any of the time-honoured Ten Commandments, forming as they do the basis of all decent civilization.

Finally, we should not enter into any agreement with the Government until matters have been settled with the consultants. They may need our help. There is no real hurry. Another Government will carry on if this does not, and so will the healing art.—I am, etc.,

Doncaster. W. REGINALD WILSON.

Stop Fighting

SIR,—In your issue of March 6 you publish two letters, one from Dr. Stephen Taylor (p. 463) and one from Mr. Aleck Bourne (p. 464). I wish particularly to refer to Dr. Taylor's letter. I must say that in my opinion it is a good sound letter, well expressed, and with fair, reasonable sentiments. Naturally he favours and supports Mr. Bevan, and states clearly that in his opinion Mr. Bevan really favoured the profession when the final stages of the Act were under consideration in the House of Commons. He says that but for Mr. Bevan many points which we as a profession object to would still have been embodied in the Act. I am afraid that members of the profession have looked at the Act more from a political point of view than from what is really good in a medical service.

We as a profession have stated that we favour a comprehensive medical service provided we could agree with one that suits the profession as well as the public. In my opinion we should consider what is favourable and reasonable, and acceptable to the public, and not entirely what suits ourselves. Personally I think that the good points in the Act outweigh the "prickly points" which we allow to prick us. We ought to endeavour to come to an agreeable settlement, which ought to and will benefit the doctors and also those who are placed in our care. Surely the little points which we object to can be rectified. The higher qualities of man—namely, his intellect and his reason—should have predominant consideration rather than his lower ones, such as "fight" and "force." I believe that if we abandon these terms, so freely used in all our controversies, we shall succeed; for as Dr. Taylor states, referring to Mr. Bevan, "In any reasonable attempt to find a solution and make a success of the Health Service, he will play fair; in battle, he will neither give nor ask for quarter." Let us therefore act upon our intellect and reason and abandon the spirit of fight and power, otherwise in the long run I am afraid we stand to lose.

I sincerely hope that a solution on these lines will be arrived at, and that a good medical service can be formulated and carried out in practice. The profession have asked for it for the past thirty years, and the public are clamouring for it, and naturally it is difficult to come to an agreement on all points favourable to us, and we must be prepared to give and take. Attempts have been made by former Ministers of Health and nothing has come of their efforts. I refer to Mr. Ernest Brown and Mr. Willink. In the present Act there is much that we can consider more favourable to us than unfavourable, and by reason we can and ought to eliminate those things which prick us. We have in our leaders all those accomplishments which are necessary, provided only that we drop the spirit of fighting and gaining victory. I do hope and pray that this will be so.—I am, etc.,

Cardiff. ARTHUR T. JONES.

Spectator in Eire

SIR,—May I as an interested spectator claim the honour of congratulating the B.M.A. on its gallant stand? It is heartening to us who may presently face the same set-up here to witness your all-out mobilization against this threat to submerge the profession in the State almighty.

If shackling the freedom of the doctor is justifiable on the grounds that he is a key man in the modern State, then what of the shopkeepers? Food, clothing, shelter are the basic needs of the citizen; after these comes medicine, but well down the list. If it is imperative to harness the doctor to the State machine it follows that all those who serve more essential needs must be roped in—namely, the grocer, the butcher, the baker, the draper, *et hoc genus omne*. This is but a logical extension of the new Health Bill. Hence the grocer must be salaried or put on a limited income, must open his shop where directed, be liable to dismissal without protection of the law courts, give up goodwill in his business as immoral, and in general renounce all freedom of human enterprise.

The average citizen sees nothing in this fight but a squabble between the Minister and the doctors about selfish interests. Many who are now complacent would think seriously if they realized that the doctor fights a menace to-day that will threaten them to-morrow. Our democracy is slipping. The continual shift to the left can end only in the Russian quality of democracy, that sombre way of life whereby man's honour and freedom on earth perish utterly.—I am, etc.,

Galway. C. CONOR O'MALLEY.

Basic Salary

SIR,—The one and only thing the whole profession appear to be united about is their fear of being converted into salaried State servants. Their dislike of basic salary arises chiefly from this fear. Surely, therefore, this is the main point to be settled, and it could be easily settled by the insertion into the Act of a clause making the basic salary permanent at £300, unless by the mutual consent of the Minister and the profession. Apart from this fear, judging from former expressions of opinion, there does not appear to be any deep dislike of the basic salary as such. Once this objection is settled the other points appear capable of settlement on similar lines. It is as well to realize that when this matter is settled it will probably be settled by compromise. It is up to the Minister to invite the B.M.A. to consult with him with a view to settling this dispute as quickly as possible.—I am, etc.,

Paignton, S. Devon. P. M. GARRY.

Whole-time Medical Officers

SIR,—I am very sorry to note from your leader (Feb. 28, p. 397) that you apparently approve of the objectionable references to whole-time medical officers in Prof. Dible's recent letter to *The Times*. If the B.M.A. has a good case against the N.H.S. Act it will not be improved by gratuitous attacks on a not unimportant branch of the profession. To say, as Prof. Dible does, that whole-time medical officers have, above all their other alleged deficiencies, no zeal is in my opinion an unnecessary insult and in my experience untrue.

I should have thought that at this time at any rate Prof. Dible would have preferred to encourage a united professional front. He should not bolster up his case by belittling a body of men whose choice of work may not be his own but who nevertheless are carrying out their duty to their patients conscientiously and to the best of their ability. Whole-time service does not of itself necessarily mean a lack of professional enthusiasm. I challenge Prof. Dible to tell me where there is a more zealous body of medical men and women than are to-day to be found in the whole-time municipal hospital service of this and many another city.—I am, etc.,

Leicester. E. K. MACDONALD.

Plums and Patronage

SIR,—Taunts have been thrust at the B.M.A. for presuming to recommend the continuance of the sale and purchase of practices. Doctors have been called mercenary dealers in bodies and souls. Why the doctor, who dispenses medicines, should be so stigmatized any more than the grocer, who dispenses food, is difficult to understand. In each case the purchaser considers an expenditure that places him in the position of making a livelihood worth while. In neither case is compulsion brought to bear upon the clients to continue their patronage except in the matter of availability, which would apply equally were no payment for goodwill made. In both cases the situation has arisen by evolution in response to the law of supply and demand. It brings reward to the man who has been industrious, and checks exploitation of such industry by those who want to get something for nothing. Should remuneration in the Health Service be by capitation fee, the purchase and sale of practices could continue as before and provide the same safeguards.

Quite apart from what it would have saved me at the beginning of my career I entertained the feeling that their abolition was desirable, in that it would place the doctor on a higher ethical level than the business man in this matter, as already does the way the doctor handles his discoveries, which he does not patent but gives freely to the world. Second thoughts indicate that this feeling is idealistic rather than expedient. Even in the Health Service some of the practices that come to be relinquished will be plums compared to others. If they are going without money and without price, who is to get the plums? One can see the ropes being pulled in the allocation committees with various members working for their own protégés. As the committees can be filled almost entirely by the Minister, the plums would fall most naturally to the good Socialist or good Conservative, depending upon what Government happened to be in power. An opening would also be made for the unscrupulous receiving backhanders as *purchase price* for their votes and influence in favour of certain candidates, a practice not uncommon in other walks of life.

The continuance of sale and purchase, though it may have drawbacks, would seem to be less likely to stir up human resentments and more conducive to fair dealing than a situation which exposes the disposal of practices to the vagaries of the unscrupulous and the whims of political patronage.—I am, etc.,

Glasgow, S.3. W. MELVILLE CHRISTIE.

Public Opinion

SIR,—It is a heartening sight to see the members of the depressed or sweeper class of the profession at last moved to protest, and as a newly enrolled member of the League of Doctors' Wives may I put forward a fresh point?

You are no doubt aware that the general public is not, unfortunately, 100% behind the doctors in their opposition to the Act in its present form. As a professional lecturer I am bound to say I am not surprised, as the B.M.A.'s "publicity" has been, to say the least, confusing to the layman, and emphasis has been laid on the wrong points. The public does not care a Shinwell's cuss how a doctor is paid, or whether he is paid, and the words "buying and selling of practices" have loomed too large in the newspapers. The impression has grown that this is a financial squabble, and the public has suffered a rude shock to its ideals—for a doctor, as they well know, is a dedicated being with no interest save the fight against disease, and with a soul above such sordid details as remuneration. Nobody likes an idol to have feet of clay, and the Minister of Health is a sufficiently clever strategist to take full advantage of his public sense of disillusion.

On the other hand, the public is very much interested in the rights of a citizen, and in my humble and diffident opinion much more emphasis should have been laid on this aspect of the Act. For example, the notorious paragraph 42, which provides the tribunal for the dismissal of "any person . . . whose continued inclusion would be prejudicial to the efficiency of the service. . . ." No mention is made in this paragraph of *professional* efficiency or otherwise, and in its present form it provides an extremely handy weapon for political or racial tyranny of the worst order.

Is it too late for the publicity of the B.M.A. to take a slightly different line? One cannot expect doctors to know all the tricks of advertising agents, nor would one wish it; but in the present situation the full support of the public would make all the difference between certainty of success and the possibility (almost unthinkable) of being obliged to yield to financial blackmail.

Incidentally I have just returned from a lecture tour in which I spoke at the Education Offices in Ipswich. A large board in the main hall was attractively set out with anti-B.M.A. propaganda. The letterpress ended with a jubilant paragraph to the effect that doctors would be obliged to yield for financial reasons.—I am, etc.,

Scarborough. GWENDOLINE BAKER.

Branch Managers

SIR,—So now the doctors' wives are up in arms. Rightly so. Why should they be caretakers and dustwomen for businesses (that's all they will be) belonging to the State? The doctors in Northern Ireland (though some don't know it) will cease to own their practices on and after July 5. Are these doctors going to accept service as branch managers for a multiple concern and work 24 hours daily? No other employees are asked to do it. Should we? *Certainly not.*—We are, etc.,

E. J. A. DOUGAN.
Belfast. H. P. LOWE.

Passage of Vitamin E to the Human Foetus

SIR,—In the annotation (Feb. 28, p. 400) on the passage of vitamin E to the human foetus you make the following statement (now repeated so often that I suspect its elimination from textbooks will not become possible for two generations even should it be proved incorrect): "Evidence that it is required by human beings is still inconclusive. It has repeatedly been claimed that vitamin E is of use in the treatment of habitual abortion, but sceptics have pointed out that abortions are often followed by full-term gestation even without special treatment."

In support of these statements you give a reference to some publications between 1933 and 1939. Surprisingly enough you make no reference at all to a more recent publication in which precisely this point was considered. In 1940 I summarized all the published records about the treatment of habitual abortion with vitamin E and compared, on certain assumptions which I hope were clearly stated in the paper, those figures with the expectation of full-term delivery in a habitual abortant, as shown by Malpas's previously published figures. The conclusion reached was that there was an overwhelming probability against the successful gestation in the treated patients being due to chance and not to the vitamin-E therapy.

My arguments may or may not have been sound; to the best of my knowledge they have not been criticized in the intervening eight years. Had a valid criticism been sent to you, Sir, it would presumably have been published for reasons identical with those that led you to publish my own contribution to which I have just referred (*British Medical Journal*, 1940, 1. 890).—I am, etc.,

Greenford, Middlesex. A. L. BACHARACH.

The Posterior Pituitary and Labour

SIR,—Dr. G. W. Harris has summarized (Feb. 21, p. 339) the evidence relating to the theory that the posterior pituitary contributes to the processes of labour. I would like to record an observation which suggests that a discharge of pituitrin-like substance occurs with each uterine contraction of labour. In 1941 a woman who had borne one child and fed him until recently from the breast was in labour with her second child. She happened to develop a measles rash at the same time. While the rash was being looked at, beads of milk were seen to stand out on the nipples with each uterine contraction, as they do from a lactating breast during the "draught" (a process corresponding to the letting-down of milk in cows) or after injection of pituitrin. Since the "draught" is believed to be due to secretion from the posterior pituitary, the expulsion of the drops of milk was taken as evidence that a similar secretion was occurring with, or was preceding, each uterine contraction. An injection of pituitrin at the conclusion of the second stage in this case caused the expulsion of more drops of milk.

The fact that this visible expulsion of milk during labour is exceptional—and I have not seen it since—is perhaps because the breasts rarely contain enough free-flowing secretion at term. Its rarity does not therefore necessarily rule out the tempting conclusion that labour proceeds from a series of discharges of pituitrin-like substance which acts on the prepared uterus and which is rapidly rendered inactive.

If there is indeed a fresh discharge from the pituitary evoking each contraction it is curious that an injection of commercial pituitrin given during the first stage alters the whole course of labour. Possibly the extracted active substance is more stable than the form secreted physiologically, or the crescendo of labour is produced by some cumulative action.—I am, etc.,

Esher, Surrey. MAVIS GUNTHER.

Rectal and Vaginal Temperature

SIR,—May I offer some remarks in reply to the criticisms levelled against the use of the rectal temperature readings in the study of ovarian activity? During the past five years I have been using temperature readings whenever possible in thousands of cycles; some of the findings were published some time ago (*Lancet*, 1945, 2, 663). This procedure was chosen after extensive trials for several reasons.

1. Whereas it may be easier to persuade some types of patients to take an oral reading, there are an equal number who prefer to take a rectal reading as they are afraid of breaking the thermometer on the teeth. This particularly applies to hospital patients unused to employing thermometers.
2. Mouth-breathing at night, and even for a short time on waking, does lower the temperature and obscures the pattern of the temperature cycle in some women. This is not compensated, as suggested by Miss Joy L. James (Feb. 21, p. 368), by closing the mouth for five minutes before taking the reading, since this precaution delays the recording and may thereby involve a misleading reading through a rise from waking level.
3. The absolute level of the temperature is of importance, for it reflects the endocrine activity of the ovary, a matter of clinical importance quite apart from the diphasic nature of the curve.

If records by different workers are to be compared, it is essential that the discrepancies introduced by the different procedures and by the variable individual difference between rectal and oral readings should be eliminated.—I am, etc.,

London, W.1. MARY BARTON.

Scepsis Scientifica

SIR,—It seems to me that Prof. Geoffrey Jefferson, in his lecture "Scepsis Scientifica" (Feb. 28, p. 379), avoids the main problem in modern medicine, which is by what means and in what manner do we temper scientific thought with scepticism and at the same time avoid the paralysis of science by a completely pragmatist attitude. That the predominant influences in present-day medicine are crude forms of empiricism, relativism, and pragmatism there can be no doubt. Scepticism has by a one-sided and false development become elevated to the role of a scientific religion. It is useful to examine the historical origins of this situation and to attempt to reveal how this "hypertrophied" development of scepticism does in fact operate as a paralysing influence in medicine.

Woodger, in his inexplicably and unwisely neglected work *Biological Principles*, demonstrates that the main philosophy influencing biology as a whole is that of the so-called phenomenalists, Mach, Avenarius, Pretzoldt, Karl Pearson, etc., who have revived and extended the subjective-idealist scepticism of Bacon, Locke, Hobbes, and Hume. The phenomenalists argued that as our knowledge is only relatively true, since those things which are "true" to-day are no longer true to-morrow, and as our

imperfect senses are incapable of accurately reflecting objective reality, so we are excluded from the possibility of any real knowledge.

For such a philosophical standpoint carried to its logical conclusion, truth and untruth, objective fact and illusion, scientific knowledge and primitive superstition, are all equally valid, and the scientist accepting these views is automatically led to empiricism and pragmatism. With Dewey, he is forced to believe that knowledge is an instrument which depends on our interests and advantages, and he eventually develops a completely cynical approach to his subject. It is especially the great complexity, the enormous number of mutually interconnected processes in living matter, together with the comparative lack of success of medical investigation when superficially compared with the so-called exact sciences—physics, chemistry, and mathematics—which make the medical worker particularly liable to adopt such an attitude.

Thus there has arisen in biology on the one hand a neo-vitalism which claims that the living organism is "unknowable" and that all we can do is lead a despairing "hand-to-mouth" existence of accumulating more and more facts in a strictly empirical manner. On the other hand, the superficial appearance of exactness and logic of the physical sciences has stimulated some medical men to "impose" on medicine the principles and methodology of these sciences, in the mistaken impression, which Prof. Jefferson appears to share, that "the only sciences which have succeeded in producing immediate conviction and durable results are mathematics and those in which mathematics enters to a very great degree." The latter medical workers (among whom we cannot include Prof. Jefferson, in my opinion one of the truly great figures of contemporary medicine) seek to explain biological phenomena as mere extrapolations of physico-chemical phenomena, and mechanically attempt to reduce biology to physical, chemical, and mathematical terms. Thus we constantly see, for example, medical workers attempting to obtain from statistical assessments information which such procedures are incapable of producing. They forget that from statistics we are unable, by means of them alone, to come to any other than purely quantitative conclusions; that for conclusions which involve qualities other additional methods of investigation and reason are necessary. Unfortunately we have not sufficient space to illustrate further the exact manner in which the philosophical conceptions described above operate in present-day medicine, but we may profitably examine the epistemological basis of these conceptions.

Views such as those held by the phenomenalists and the pragmatists have as their basis the isolation and exaggeration of but one aspect of human knowledge—the fact that it is limited. Knowledge is limited and relative because it is an "endless approximation to external reality," and because every theory depends on the limits set by the historical experience of social practice. Knowledge advances in a contradictory manner, but scientific experience, handed down from one generation to another, is each time enriched by new scientific discoveries and is all the time increasing the possibility of adequate knowledge of objective reality. By exaggerating and isolating one aspect of knowledge—its limitations, its relativeness—the phenomenalists and pragmatists distort it and produce a sterile and despairing empiricism.

In fact, biological phenomena, sociological principles, etc., are no less real and "exact" because they cannot be expressed in terms of physic or mathematics. Biology, however, has considerably lagged behind the development of the latter sciences because, by reason of its subservience to outmoded philosophical systems, it has remained in the stage of the empirical collection of facts, a stage which physics, for example, has long since outstripped. All sciences proceed through this empirical stage in their development, but in order to make further advances they have also to construct fundamental principles, generalizations derived from the facts, which give to the science an operable theoretical basis. As Walshe has said, the season of synthesis of the innumerable available facts of medicine is long overdue, and one may add to this that this season will not appear until medicine rids itself of scientific pragmatism.

One last point: I strongly disagree with Prof. Jefferson's comparison between that giant of philosophy, Bacon, and Wilfred Trotter. The latter, whose philosophical stature has in my opinion been greatly exaggerated by medical men, has not written anything of which I am aware which can be compared either in originality of thought, lucidity of exposition, or logical development with Bacon's philosophical works. His eminence as a medical philosopher is mainly derived from "the flatness of the surrounding country."—I am, etc.,

London, S.W.3. A. MCPHERSON.

Pyopericardium

SIR,—Lieut.-Col. A. L. Wingfield (March 6, p. 451) concludes his interesting report of a case of pyopericardium treated with apparent success by aspiration and penicillin instillation by saying: "The final outcome remains conjectural, but eventual pericardial symphysis appears inevitable, although there are no signs of it at present."

This statement helps to perpetuate the great confusion of thought concerning chronic pericardial disease, for although it must be agreed that diffuse adherence (symphysis) between the two layers of serous pericardium is probably an inevitable sequel to recovery from a pyopericardium, such adhesions do *not* produce symptoms or signs during life.

I think it is probable that the author means that there are no signs of chronic constrictive pericarditis (Pick's syndrome), which is the best definition employed to describe thickening and loss of elasticity of the pericardium with consequent limitation of diastolic filling of the heart (chronic cardiac tamponade). Tuberculous infection, usually healed, is thought to be the most common cause of this syndrome, but there may well be a risk of its occurrence following suppurative pericarditis treated successfully by penicillin without drainage, although so far as I know it has not yet been reported. Further experience should decide this point: meanwhile it would appear unwise to dogmatize on the future of the operation of pericardiotomy.

"Adherent pericardium" is still used indiscriminately to describe (1) simple adhesions between the pericardial layers which do not cause symptoms or signs, (2) chronic constrictive pericarditis which causes chronic cardiac tamponade, and (3) mediastino-pericarditis (adhesions between the pericardium and the chest wall) which is supposed to cause massive enlargement of the heart but is probably not an entity at all.

It isn't fair on the student.—I am, etc.,

London, W.1. OSWALD S. TUBBS.

The Colonial Medical Service in Aden

SIR,—Of late much attention has been focused on health services. Having very recently returned from Aden, where we served in the R.A.F.V.R., we consider that a little open criticism of the backward conditions under which the Colonial Medical Service has to work in that colony should be laid before your readers. We do not desire that this should be interpreted as a deterrent to any doctors intending to join that service, but rather that it should stimulate rapid action in the matter of improvement or at the very least acquaint your readers with undoubted facts with which the Colonial Office cannot but be acquainted.

For a period of approximately six months we acted as surgeon and anaesthetist respectively at the Civil Hospital in Aden when that hospital possessed neither; and for the whole of our tour in Aden we were associated in many ways with the Colonial organization from our respective positions as officers in charge of the surgical and medical divisions at the R.A.F. Hospital. Let it be stated here that we do not gainsay our fortune in being allowed such access to medicine nor the friendly and co-operative way in which we were treated by all the staff at the Civil Hospital, who, working under dreadful conditions with difficult patients, did sterling work. We merely criticize existing inadequacies.

The population of Aden is in the neighbourhood of 80,000, a great increase having taken place during the recent war. Hospital accommodation was hopelessly small—so much so that even the acceptance of only emergencies necessitated patients being on the floor between beds. The existing "wards" were outdated, unequipped, and impossible to keep clean; one lavatory basin sufficed for roughly 70 patients. Lack of accommodation, inadequacies of design, and out-of-date equipment meant that even with the best will in the world the overworked staff could not keep the place or the patients clean. Dirt and flies abounded—the latter despite the fact that in other parts of Aden with similar surrounds flies were considerably less common than in this country. There were no out-patient departments worthy of the name, and the majority of surgical out-patients were seen outside and dealt with as well as such a situation permitted. When it was necessary to examine them more thoroughly they had to be laid on the operating table in the minor theatre, dirt and all. Patients waited in the sun. The main operating theatre was just adequate in size, but it was not until a strong letter was written by one of us that air-conditioning was instituted. Previously two fans over the table circulated the air, while an open window overlooking the dirty active town acted as a ventilator.

Equipment was limited, and essentials such as scalpel blades and rubber gloves were often missing and had to be borrowed from the R.A.F. It is reliably reported that a certain surgeon on one occasion had to use scissors to make his skin incision for an abdominal operation. There was no anaesthetic machine. For head-and-neck surgery a Heath-Robinson arrangement of borrowed equipment was used. A catheter was attached to rubber tubing and this in turn to a funnel. On to a piece of gauze wrapped over the funnel the ether was dripped. There was no alternative. There were no adequate resuscitative measures available except from R.A.F. sources. If we needed saline, plasma, or blood we had to supply them and the transfusion set. The local saline was so pyrogenic that it was unusable. Oxygen cylinders were supplied, but as there were no workable masks they were of limited value. Sterilization of all dressings was carried out by the R.A.F.

Ancillary medical services were elementary. A workable *x*-ray unit was only fitted some weeks before we left. Pathological services were limited to the most simple investigations, and more complicated procedures were carried out by the R.A.F. Practically all the public-health aspect of the work was done by the R.A.F. laboratory.

The control of endogenous diseases, considering the primitive sewage system and appalling housing conditions, appeared to be of little avail. Amoebiasis, for example, was widespread and tuberculosis common. Owing to the very limited accommodation available only a small number of cases of the latter disease likely to respond to conservative treatment were hospitalized. Advanced cases spread the disease.

We have made no attempt to list all the inadequacies—space does not permit—and while appreciating that some good has been done by the Colonial Medical Service in Aden nevertheless the general impression created is more than disappointing. Plans, we believe, have been prepared for some time for building a new hospital, but it should be obvious that many defections are unconnected with buildings. In concluding it is worth remembering that Aden is a "shop window" for Great Britain, and that a great many nationalities pass through the port. We felt that no poorer advertisement than the existing medical arrangements could be offered.—We are, etc.,

D. P. VAN MEURS,
W. D. WYLIE,
Late Wing Commanders, R.A.F.V.R.

Belmont, Surrey.

Pulmonary Embolism

SIR,—I welcome Mr. Reginald S. Murley's criticism (Feb. 28, p. 415) of my article "The Aftermath of Gastrectomy," which was of course no more than a brief summary of a huge subject. Even so I should have devoted more than six lines to an aftermath as serious as pulmonary embolism. However, I am not totally ignorant of modern views on the subject regarding the importance of deep peripheral thrombosis. When Mr. Murley says that my statement, "Thrombosis usually arises in the abdominal wall, or, as in two of these cases, from extension of the thrombosis of haemorrhoids . . ." is preposterous, I disclaim all responsibility and place it fairly and squarely on the shoulders of Nature, since these cases were proved by post-mortem examinations which I personally witnessed—the clots being traced respectively into the azygos and iliac veins (in one a mass of clot still projected into the superior vena cava from the vena azygos major). Nature has an awkward habit of being "preposterous" and oft-times interferes most inconsiderately with our ideas.

I should like to add that as a house-surgeon I was brought up to believe in the value of post-operative leg massage and exercises, introduced in those far-off days by Rutherford Morison, and this practice has been followed throughout my surgical life. However, as the figures in my article reveal, I have not been able to avoid pulmonary embolism by such simple measures. The modern extension of this idea and the introduction of reliable anticoagulants will it is hoped reduce the incidence of this dire complication, but I think I was right in saying that it still remains "a bugbear," which the O.E.D. gives as "an object of (needless) dread."—I am, etc.,

NORMAN C. LAKE.

London, W.1.

Bone Conduction in Otosclerosis

SIR,—The report in the *Journal* of Feb. 14 (p. 308) of a paper on bone conduction in otosclerosis, read by Dr. R. R. Woods at a meeting of the Section of Laryngology and Otology of the Royal Academy of Medicine in Ireland, focuses attention on the gain in bone conduction in the operated ear which occurs after the fenestration operation for otosclerosis.

In this connexion I would like to emphasize the considerable lengthening of bone conduction which may occur in the unoperated ear after a fenestration operation on the other ear. This lengthening of bone conduction is a matter of clinical importance, as the following case illustrates.

A man aged 47 consulted me for bilateral deafness getting steadily worse during the last three years. He complained of moderate buzzing noise in each ear. On testing the hearing of the right ear, conversational voice could not be heard distinctly at a distance greater than one-and-a-half feet; with the left ear loud conversation could only be heard occasionally at about one inch. On testing bone conduction with a 256 tuning fork it was found to be lengthened by a few seconds on the right mastoid bone and to be reduced by about 50% on the left mastoid bone. The ear drums were normal in appearance and the eustachian tubes were freely patent.

As a result of the reduced bone conduction in the left ear it was thought that there was likely to be a considerable degree of nerve deafness in this ear. On the other hand, the findings with the right ear indicated that a good result to the fenestration operation on this ear was likely. A right fenestration operation was therefore performed. During the second week after this operation the hearing to conversational voice with the right ear improved to hearing at a distance of about twenty feet. At the same time hearing to conversational voice with the left ear improved to about one foot, and bone conduction, using the same 256 tuning fork, was lengthened to normal for this fork.

In view of the improved bone conduction in the left ear it was decided to do a second fenestration operation on this ear. As there was very little giddiness this was done three-and-a-half weeks after the first operation. The patient began getting up four days after the second operation, as there was even less giddiness after this operation than after the first operation. During the second week after the operation the hearing with the left ear became as good as the hearing with the right ear.

The patient was discharged from hospital six weeks after the first operation, and was back on duty as a commercial traveller two weeks later. It is now six weeks since he left hospital, and all tinnitus has subsided and he is hearing conversational voice at about twenty-four feet in each ear.

The lengthening of bone conduction described above is one manifestation of a syndrome which I call contralateral concomitant auditory facilitation of the fenestration operation. Usually in the less marked cases of bilateral deafness the syndrome is marked by considerable improvement in hearing to conversational voice by the unoperated ear.—I am, etc.,

W. H. B. MAGAURAN.

London, W.1.

Calciferol in Tuberculosis

SIR,—Under dispensary conditions my experience with calciferol in tuberculous cervical adenitis has not been so satisfactory as that obtained by Dr. G. B. Dowling *et al.* (March 6, p. 430) treating cases in institutions. Over a period of four months seven out of eight cases given 100,000 units of calciferol daily by mouth showed a slow improvement which could easily have been due to the other general measures employed. In one case the glands broke down and operation for an abscess was required.

From this it would appear that once a case is under suitable conditions calciferol acts by giving a stimulus to the defence mechanism of the body. Such an action has been noted in six cases of advanced pulmonary tuberculosis. Three or four weekly intramuscular injections of 300,000 units of calciferol improved the general condition, reduced the degree of fever, and induced a gain in weight. No adverse toxic effects were seen in treating these cases of pulmonary tuberculosis.

One other case received 6,000,000 units by injection in 20 days. There were no deleterious effects, nor was any improvement noticed.—I am, etc.,

R. GRENVILLE MATHERS.

Wallasey.

Retroperitoneal Haemorrhage in Pregnancy

SIR,—Dr. J. Kenworthy Ogden's report of this case (Feb. 28, p. 389) is of great interest. It does not appear necessary to try to correlate the aetiology of retroperitoneal haematoma with toxaemia of pregnancy. The post-mortem findings confirmed the presence of massive spontaneous intraperitoneal haemorrhage with no definite bleeding point. The first reported case of this condition was by Barber in 1909. The patient, aged 32, collapsed two days after labour. At operation no definite

bleeding point was found. She recovered. There was no mention of toxaemia of pregnancy in this case.

In the absence of high blood pressure and arteriosclerosis the heart is incapable of raising the blood pressure sufficiently high to cause rupture of a normal artery, and some congenital or developmental defect must precede spontaneous rupture. Bruce (1937) suggested that the haemorrhage in this group may be due to rupture of a miliary aneurysm or a "junctional area." Bruce's suggestion was soon confirmed by Schuster (1937), who described a case of multiple aneurysms of the splenic artery which she believed were of congenital or developmental origin in a case of familial haemorrhage telangiectasis. Shallow, Herbut, and Wagner (1946) demonstrated defects in the muscle coat of the inferior pancreatico-duodenal artery associated with a ruptured congenital saccular aneurysm at the first bifurcation and three small fusiform dilatations in the more distal parts.

At post mortem it is often difficult to demonstrate the bleeding point in this type of massive spontaneous intraperitoneal haemorrhage. However, careful dissection of the affected part and sectioning of the neighbouring vessel will demonstrate the cause—a ruptured miliary aneurysm or congenital defect of the arterial wall.—We are, etc.,

A. C. BREWER.
R. MARCUS.

Liverpool.

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Schuster, N. H. (1937). *J. Path. Bact.*, **44**, 29.
Shallow, T. A., Herbut, P. A., and Wagner, F. B. (1946). *Surgery*, **19**, 177.

Cancer of the Lung

SIR,—With reference to recent correspondence I wish to draw your attention to the fact that in a small research (confined to males) carried out here it was found that the incidence of cancer of the lung fell more heavily on smokers than non-smokers—correction for age having been made. Unfortunately the number of cases investigated was too small to be statistically significant.

Our ignorance of the fundamental cause or causes of cancer is almost completely unrelieved. We know that in a small proportion of cases the inciting cause is the repeated application of a carcinogenic agent contained in tar, soot, oil, or other substance. The apparent increase in cancer has been almost entirely in cancers of inaccessible parts of the body.

Improved methods of diagnosis—of which radiology is the chief—are accountable in part for the greater frequency with which a diagnosis of cancer of the lung is now made. Also it is possible that more people develop cancer of the lung because more people live to the age at which cancer usually occurs. Gassing during the first world war and its sequelae apparently did not predispose to lung cancer.

Whether tars or other agents contained in tobacco act as carcinogenic agents in the lung is a disputed question. A complete statistical survey of smokers and non-smokers on this point has yet to be made. The quality and amount of tobacco consumed, the frequency of inhalation, age, sex, race, and all other relevant factors would have to be included in such an investigation.—I am, etc.,

G. C. F. ROE.

Public Health Department, Halifax.

Intervertebral Disk Lesions

SIR,—Dr. Michael Kelly (Feb. 28, p. 416) rightly draws attention to the well-known observation that pain is not a characteristic feature of lesions known to produce pressure on nerve trunks. As was shown by Lewis and Pochin,[1] in nerve paralysis from pressure touch fails early, motor power next, "fast" pain later, and delayed pain last. Before pain sensation is lost transitory hyperalgesia may occur, so that the earliest signs of nerve pressure are alternating periods of numbness and cutaneous tingling in the area of distribution. Pain such as that of the sciatic syndrome does not occur.

On page 424 of the same issue, however, your adviser's reply under "Any Questions?" follows traditional thought in suggesting that the sciatic pain of disk lesions is due to pressure or stretching of nerve-roots. That may be so, but there is at least some evidence that other factors are involved. Kellgren and Lewis[2] demonstrated that irritation of a deep somatic structure such as an interspinous ligament by injection of hypertonic saline resulted in pain throughout the corresponding sclerotome with accompanying muscle spasm. We can aver from personal experience and self-experiment that the pain produced by so stimulating the fifth lumbar interspinous ligament is clinically and subjectively indistinguishable from that occurring spontaneously in an L5-S1 disk lesion.

Now, primarily, herniation of the nucleus pulposus is a joint lesion which produces strains on surrounding ligamentous structures and may finally give rise to nerve-root or spinal compression. Such a joint disorder might reasonably be expected to produce pain throughout the corresponding sclerotome, *irrespective of whether or not nerve pressure occurs*. In fact, a large proportion of patients in whom the diagnosis is subsequently confirmed by operation never present any acceptable objective evidence of nerve pressure such as muscle weakness, anaesthesia, or loss of deep reflexes.

Before the phenomena are clearly understood two facts must be explained. (1) Application of a short plaster corset, even without preliminary extension, may rapidly relieve pain, although the area of anaesthesia persists or, as in one case under our observation, actually increases. Clearly such benefit cannot be due to relief from nerve pressure, but it may well be the result of immobilizing, at least partly, the grossly deranged spinal joint and thereby diminishing the deep segmental pain arising therefrom. (2) We have found that in many cases of undoubted disk prolapse temporary relief from pain follows injection of the corresponding interspinous ligament with 1% procaine solution. This cannot be the result of relief from nerve pressure though the change may be explicable upon the basis of the theory recently propounded by Cohen.[3]

The understanding of the pain mechanisms involved in these cases is a matter of some importance. In most instances the primary necessity of treatment is the relief from pain, a problem as yet incompletely solved. Fuller understanding of the manner in which pain is produced will surely pave the way to more universally satisfactory results.

It is generally accepted that on clinical evidence alone the level of a lumbar spine disk lesion cannot be confidently predicted. It may be that the present conception of sciatic pain as the result of root compression is responsible for this difficulty, and if it were regarded as a deep segmental pain due to joint disturbance this difficulty might be resolved. Oversimplified views of the pain mechanism in this condition are liable to follow a mechanical interpretation of the functions of the central nervous system.

The problem is a complex one and, clearly, many questions remain to be answered. We are at present engaged in an investigation of this subject and hope to communicate our findings in due course.—We are, etc.,

J. DONALDSON CRAIG.
A. W. LIPMANN-KESSEL.

London, W.2.

REFERENCES

1 *Clin. Sci.*, 1938, **3**, 141.
2 Ibid., 1939, **4**, 47.
3 *Lancet*, 1947, **2**, 933.

The Extent of Neurosis

SIR,—Stimulated by the correspondence on this subject I decided to classify the patients I saw during a period of twelve weeks—from Nov. 9, 1947, to Jan. 31, 1948. Some of the facts and figures emerging may be of interest. The practice under review is a large mixed private and panel practice in a town of some 25,000 inhabitants, extending also to some of the neighbouring villages. It is run by four partners, who share the work as equally as possible, apart from the fact that nearly all the anaesthetics are done by one partner, and a very large proportion of the midwifery by another. This accounts for the rather disproportionately small showing of these two types of work in the figures following, since the work is that of one partner out of the four.

A total of 3,200 patients were seen; of these 1,744 were surgery attendances, 1,074 were visits to patients in their own homes, and 382 to patients in the local cottage hospital. 2,241 were "old patients," while 959 were first attendances.

Among the acts of service were included: minor surgery, 43; injections, 82; anaesthetics, 3; obstetric attendances, 43 (including 16 antenatal and 4 post-natal examinations); life insurance, 6; examination for entrance to Civil Service, etc., 10.

Not included in the total of acts of service above was the dispensing of medicine on 656 occasions and the making of 50 telephone calls on behalf of patients. Furthermore, the paper work in the course of this period, apart from record-keeping, included the writing of 1,034 prescriptions and the issuing of 879 certificates of various kinds, as well as the notifying of 21 cases of infectious

disease and the writing of 82 letters to consultants and hospitals concerning patients.

In all 70 patients were referred for a second opinion and 13 sent to hospital direct, as immediate emergencies. Of the visits, 16 were night-calls between 10 p.m. and 8 a.m.

An attempt has been made to classify the types of illness from which the patients were suffering, though it speedily became obvious that such a classification could, at best, be only a very rough one and that while certain categories could be clearly defined others tended to overlap considerably. A classification by systems of the body was also undertaken. The results are shown in tabular form below, excluding all midwifery.

Illnesses		Systems of the Body	
Acute general infections	25·8%	Cardiovascular system	9%
Acute local infections	12·7%	Respiratory tract	23·5%
Chronic infections	3·1%	Digestive tract	14·8%
Traumatic conditions	7·7%	Skin	10·5%
Degenerative conditions	13·9%	Bones and joints	7%
Constitutional diseases	23·2%	Muscles	4·1%
Organic nervous disease	2%	Central nervous system (including functional nervous disorders)	9·4%
Functional nervous illness	6·3%	Genito-urinary system	5·3%
Neoplasms	1%	Glands of internal secretion	1·5%
Allergic conditions	1·6%	Connective tissues	3%
Fibrositis and allied states	2·7%	Eyes	1·9%
		Ears	2·5%
		Throat	6·7%
		Haemapoietic system	0·5%

In respect of the original object of the survey—the estimation of the amount of neurotic illness—it rapidly became clear that quite apart from the clear-cut cases of almost pure neurosis a very large number of the patients suffering from a definite organic complaint were also affected by a strong subjective element, due to their anxiety about their health or anxiety about the effect of their illness on their economic conditions. In the table above the figure given for functional nervous disease of 6.3% tells only a part of the tale, as no patients with any demonstrable organic condition were included.

It seems obvious that the amount of neurotic illness seen by the general practitioner is very considerable, but that no reliable figure can be given inasmuch as standards of classification are almost impossible to set up, and the recognition of neurosis will in itself tend to vary with the outlook and temperament of the doctor himself.—I am, etc.,

Aldershot. H. BOLTON TIPLER.

True Hermaphroditism

SIR,—Dr. A. P. Cawadias (Jan. 31, p. 229) would appear to be under some misunderstanding concerning the nature of hermaphroditism in the animal kingdom. Even the humble hermaphrodite worm might turn at being described as a "double animal." In reply to Dr. J. R. Edisbury (Dec. 27, 1947, p. 1056) it must be said that the whole subject is a very large one and it cannot be dismissed in a few lines.

As is well known, the sex of an animal depends primarily upon its genetic constitution—i.e., the sex-chromosomes when these are known to exist. But for the full development of a functioning sexual animal the whole hormonal apparatus is essential. Hormones and other conditions, however, can override the original sex chromosomes and cause a sex-reversal.

A definition of terms might not be out of place here. There are three groups:

1. True permanent *hermaphrodites*, in which ovary and testis remain together and function throughout life—e.g., earthworm;
2. *Sex reversals* in which the animal starts as one sex and passes through a hermaphrodite stage to the other sex—e.g., the Buff Orpington hen (see below);
3. Those individuals with the gonads and sexual apparatus of one sex and some or all of the accessory organs and hence characters of the other sex—e.g., the *mammalian intersexes*.

Unisexuality is the primitive condition, and not hermaphroditism, as Dr. Cawadias suggests. For example, in the invertebrates it is the more specialized forms in any groups which exhibit this phenomenon, or where it occurs in a whole group this is entirely specialized. In the *Crustacea* the sessile barnacles are hermaphrodite and also many parasites. In general the phenomenon has evolved under conditions where fertilization would be difficult if unisexuality prevailed. It is not confined to such types, as is shown by the few vertebrate hermaphrodites such as the bony fish *Serranus*, where a testis is present in the wall of the ovary and self-fertilization takes place. These are all examples of Group 1 above.

Group 2 is illustrated by the now famous Buff Orpington hen which, after a blameless life of egg-laying and chick-rearing, at the age of 3½ years stopped laying, grew cock feathers, started crowing, and was successfully mated with a previously infertile Buff Orpington hen. At necropsy the ovary was found to be replaced by tumour tissue and a small amount of testicular tissue was present in the ovary. This tissue had produced the viable sperm and incidentally the secondary sexual characters. This same effect may be produced by outside agents. The crustacean parasite *Sacculina* is able to convert a male crab into one with female characters. It has been shown that in doing so it is able to use the products of the "female" crab's metabolism for its own ends.

In the case of the worm *Bonnelia*, Baltzer (1925) has shown that sex is determined by pure accident of situation. The larva at a certain stage sinks from the surface. If it falls near the proboscis of a female *Bonnelia* it becomes a male. If however it falls anywhere away from this influence it becomes a female. It has been shown that the female proboscis possesses a chemical substance which dominates the sexual character of the form which comes into contact with it.

Under Group 3 come all those cases in mammals, including man, which although predominantly of one sex do nevertheless exhibit certain characters of the other sex. In the case of cattle a co-twin to a male becomes a freemartin—i.e., a female which never becomes a functional one. This has been shown to be due to the earlier elaboration of the male sex hormones by the male twin *in utero* (Lillie, 1917).

In all higher vertebrates both male and female ducts are present during development. In most cases one develops more rapidly than the other and only vestiges of the opposite sex are left. This is not, however, always so, and in some cases, in which one may postulate a time factor, much more of the organs of the other sex develops, and even the gonad may do so. Hence the possibility of intersexes. These commonly occur in goats and pigs. In mice they are less common, and it may be suggested that here the sex-determining mechanism is more stable.

Goldschmidt (1931) in his work on moths has obtained evidence for the existence of "strong" and "weak" male and female genes. In his elaborate experiments he was able to breed types with varying grades of "maleness" and "femaleness." His theory suggests that sex and intersexuality are largely determined by a balance or lack of balance in the strength of these male and female genes. Whether this is applicable to vertebrates we do not know, but it may well be so.

Dr. Edisbury and others interested might consult any of the following books for a full account of this very large subject: Goldschmidt, R., *The Mechanism and Physiology of Sex Determination* (Methuen, 1923); Darlington, C. D., *Recent Advances in Cytology* (Churchill, 1937); Crew, F. A. E., *Sex Determination* (Methuen, 1933); Baker, J. R., *Sex in Man and in Animals* (Methuen, 1926).—I am, etc.,

King's College, Newcastle-upon-Tyne. MARY A. WOOD.

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Goldschmidt, R. (1931). *Quart. Rev. Biol.*, **6**, 125.
Lillie, F. R. (1917). *J. exp. Zool.*, **23**, 371.

SIR,—I am indebted to Dr. A. P. Cawadias (Jan. 31, p. 229) for his informative iconoclasm and also for directing my attention to his *Hermaphroditos*, which I regret to say I have not yet read. In extenuation, your annotator (Nov. 22, 1947, p. 828) seems to have been in the same lamentable position.

There does not seem any immediate prospect of a convenient qualitative test for human *y* chromosomes, or a roughly quantitative test for *x*, either of which would reveal the true or genetic sex. Perhaps someone who knows just what possibilities exist, if any, will write an article on the subject, not forgetting the forensic aspects—e.g., male heirs, etc.—I am, etc.,

Hooton, Cheshire. J. R. EDISBURY.

Homoeopathy

SIR,—My attention has just been drawn to Dr. D. W. Winnicott's letter (Feb. 14, p. 313) in which he states among other things that "homoeopathy has not been accepted by the profession on *scientific grounds*."

As a member of the profession who practises homoeopathy, may I point out to Dr. Winnicott that homoeopathy has never

been tested scientifically by "the profession," but has been rejected by it simply through prejudice without any proper trial. We homoeopathic physicians have repeatedly asked "the profession" to put the method to the test, and they have always refused.

We therefore welcome the opportunity which seems to be presenting itself in the near future of getting our method of therapeutics put to the test, which we have no doubt it will pass; and so the "over a million people" in this country who prefer homoeopathic treatment will be able to obtain it under the National Health Service Act.—I am, etc.,

London, W.1. ALVA BENJAMIN.

Juvenile Delinquency

SIR,—Dr. Eustace Chesser (March 6, p. 475) makes the statement that "virtually all juvenile delinquents are made, not born," and prescribes the omnibus remedy of "short and severe punishments, followed by psychological treatment," as an alternative to "three years of comparatively negative confinement in an approved school."

Such a view ignores increasing knowledge of genetics and of the hereditary factor in disorders of conduct. It also overlooks the active contribution that the approved schools are making to the study and understanding of the factors which lead to juvenile delinquency, quite apart from their role in re-establishing as normal members of the community a high proportion of the young people whose training and re-education they undertake.

The urgent necessity advocated by your leading article (Jan. 31, p. 203) for further investigation into the efficacy of different methods of treatment as judged by the after-histories of cases of different types should receive the full support of all scientific workers in the field as being a direct means of determining the underlying causes and hence contributing to the prevention of juvenile delinquency.—I am, etc.,

Liverpool. MURIEL BARTON HALL.

Child Guidance and Youth Organizations

SIR,—I have read with interest the letter of Dr. D. T. Maclay (Feb. 21, p. 368) on the need for liaison between psychiatric workers on the one hand and youth movements on the other. The London Union of Mixed Clubs and Girls' Clubs has now had for about three years the services of an honorary consultant psychiatrist and has found them of very great value. Our consultant visited clubs of different kinds and spent some time familiarizing herself with one in particular before undertaking to advise our leaders.

This organization has 22,000 boys and girls in its clubs in Greater London. Among them are naturally some "difficult" adolescents, but I would emphasize that it is not only the exceptional case that can benefit from psychiatric advice. We are still constantly learning how to make the wisest provision for normal young people growing up in our society.

All our students in training for leadership have had the advantage of lectures and tutorials from our consultant; and some of our best and most experienced leaders, too, have told me that it is a refreshment of spirit and an illumination of the mind to talk to our psychiatrist. Many people find club leadership as exhausting as it is rewarding, and the services of a psychiatric worker may be directly helpful to the leader as a person as well as in his or her professional capacity.—I am, etc.,

MARJORIE TAIT,
Organizing Secretary,
London Union of Mixed Clubs and Girls' Clubs.

London, S.W.4.

SIR,—I would like to protest against the suggestion implicit in Dr. D. T. Maclay's letter (Feb. 21, p. 368) in which he couples the increase in juvenile delinquency with the spread of child-guidance clinics, and accuses child-guidance clinics of ignoring youth organizations such as Boy Scouts, Church Lads, etc. He does not mention the war, but this has been and will be for many years the chief cause of the rise in delinquency. Broken homes, marital discord, and prolonged separation from parents, especially in the first six years of life, play a large part in inducing the delinquent frame of mind. In these circumstances the normal love relationship between child and parents is disturbed, so that the child lacks the incentive to model himself on his parents and accept his parents' standards. Less frequently the parental standards are themselves low so that the delinquent child is merely imitating his parents. The increased marital infidelity and divorce which occurs in wartime, and the separation necessitated by evacuation, is one of the commonest causes of delinquency now, and often the delinquency dates from evacuation or the return from it, a most difficult period for a child.

One of the functions of a child-guidance clinic is to re-establish a normal love relationship between the child and parents, so that the child can again derive pleasure from pleasing them. This is done by work with the parents, play therapy with the child to get rid of the child's resentful attitude, and of course by helping the child to find socially acceptable outlets for his energy, such as the clubs Dr. Maclay mentions. It is no use preaching to delinquents. They simply take no notice, like a girl of eleven I have recently seen, who regularly attends Sunday school and has made a practice of stealing money from the Sunday-school teacher's handbag after the service.

Unfortunately child-guidance clinics are far too few to cope adequately with this difficult problem, and I agree with Dr. Maclay that all encouragement should be given to youth clubs. It is however an odd point, as Healy and Bronner have shown, that delinquents are more often regular club members than their non-delinquent siblings. But I can assure Dr. Maclay that all good child-guidance clinics do co-operate with social clubs and youth organizations, and every encouragement is given to the children to join them.—I am, etc.,

London, W.11. FELIX W. BROWN.

School Ophthalmic Service

SIR,—I think from Mr. S. Black's reply (Feb. 21, p. 368) that he must have read my letter in somewhat of a hurry. I emphasized that every Devon County Council school child had a visual acuity test every year, the most important group being that of the school entrants. I am quite sure that Mr. Black would find that children of 4 to 5 years of age, when tested by reliable and scientific methods, are quite unable to attain the 6/6 standard when there is even a low error of refraction, and definitely not when there is a "fairly high error."

It is for this very reason that this group is considered so important, before gradually increasing close work has produced ciliary over-action in cases of hypermetropia, which cannot be spotted by visual acuity tests when the children reach 7 or more years. Youngsters who are too shy, dull, uncooperative, or unable to carry out the test are referred, with all those failing to attain the required standard, for full ophthalmic examination, of which the actual refraction is not the most important part.

My so-called defence of Devon County Council arises from the fact that the ophthalmic scheme in operation there is the one of which I have complete and intimate knowledge, and I am therefore in a position to refute Mr. Black's allegation at any rate as far as this area is concerned.—I am, etc.,

Exeter, Devon. MARGARET L. FOXWELL.

An Arab Custom

SIR,—We believe the following may be of interest to your readers. While visiting the newly built American Mission Hospital in Doha, capital city of the Qatar Peninsula, Arabia, we were informed of the following practice employed by the Arab women after parturition.

When the placenta has been expelled the vagina is packed with common salt for two to three days in an endeavour to produce contraction of the vagina to the nulliparous state. This is usually followed by fibrosis of the vaginal canal and often atresia of the vestibule. As a result subsequent labours prove difficult, usually necessitating episiotomy, which formerly the Arabs practised among themselves.

As the Arab is polygamous by nature, this practice is an attempt by the wife to retain her former position in the eyes of her husband.—We are, etc.,

F. S. PRESTON,
Surg. Lieut., R.N.V.R.
P. I. RUTHERFORD,
Surg. Lieut., R.N.V.R.

H.M.S. "Challenger,"
Persian Gulf.

POINTS FROM LETTERS

Stand Firm

Dr. J. R. SALMOND (Burton-on-Trent) writes: The profession has spoken in no uncertain voice. Now, B.M.A., stand firm! We are all behind you and expect a lead. Don't give way or compromise—it is too dangerous. Local study circles must be fully organized and must have a definite policy. Our patients look to us to refuse service under the Act as it stands and to maintain our professional freedom. Think of what public apathy cost Germany in the '30s. We must cling to our liberty. . . . One thing now is certain. Since we have shown very clearly that the whole of the profession is opposed to the Act as it now stands in this country, the B.M.A. must have ready some concrete proposals for a more reasonable health scheme which can be put forward to Mr. Bevan as an alternative in the knowledge that the doctors would willingly join together in working it to the common good of all.

Compensation after July 5

Dr. PETER E. MORRIS (Hayle, Cornwall) writes: Apart from the principles involved the financial worry of most of us is the fact that at present we must enter the scheme on or before July 5 or go without compensation even if we join in later on. If the Minister were prepared to buy our practices, or in other words if spot cash were offered for goodwill, *whenever a practice was incorporated in the N.H.S.*, there would be nothing for us to worry about on this score. One sees of course that this would destroy what the Minister hopes is a trump card, but his refusal to agree to it would be absolutely indefensible. . . .

Accepts Service

Dr. S. GILFORD (Reading) writes: I should like to apologize to Dr. R. H. Scott (Feb. 21, p. 360) for one mistake in my letter. In my *Medical Directory* for 1944 I found that a Dr. Ronald Hadley Scott, living in Hook, Basingstoke, was in the partnership of Cox, Scott, and Sharkey, of Basingstoke. Dr. J. A. Sharkey signed the letter, but I found that there was another Dr. R. H. Scott (Ronald Holford), of Newcastle-upon-Tyne, who has apparently settled in the district. . . . I should like to add a few words about the plebiscite. I did not answer A—"I approve of the National Health Service Act in its present form"—because it is evident that no one can approve of it without amendments in the future. I believe that a salaried service is the only form which will provide a satisfactory service when the health centres are established. Financial competition will make full co-operation impossible. I am willing to accept service under the Act in its present form and to hope for improvement in the future. I may add that any amendment of the Act now would invalidate the plebiscite and leave anyone who signed that plebiscite free to alter his mind before July 5.

Plebiscite Warning

Dr. T. J. CRONIN (Birmingham) writes: Services, permanent commissions, 16-1 against. This result, plus the figures for all salaried groups, must have surprised more G.P.s than myself. It surely is a grave warning against that type of service and should make even those who voted in favour think again. In the past temporary serving officers expressed their opinions on many subjects under a *nom de plume*. Some of their more experienced colleagues could do the profession a great service and stiffen our morale by giving us some of the "facts of life" in a State service just now. In the meantime I personally await with confidence further guidance from our Representative and Negotiating bodies. We have more to fear than loss of compensation—think of all the regulations yet to be inflicted on us. Dr. Thomas J. Agius (Feb. 21, p. 362) quotes from a sample.

Doctors' Wives

MRS. D. FRASER (Droxford, Hants) writes: As soon as the goodwill of my husband's practice passes to the State (with or without compensation) I intend to discontinue my almost full-time unpaid job of administrative assistant to him. A railway engine-driver's wife takes no part in administering the railways any more than a Coal Board official's wife does in running the mines, and I feel that under the new dispensation I ought to be equally absolved from having to help in making Mr. Bevan's scheme a success. . . . I suggest therefore that this matter should be strongly represented to the Minister, whether or not further negotiations take place, and also that the delegates at the meeting of the Representative Body on March 17 should give some thought to it in deciding the future action of the Association.

Prickly Heat: A Simple Remedy

Dr. H. J. KINGSLEY (Bulawayo, Southern Rhodesia) writes: If Dr. C. J. Wilson (Jan. 10, p. 76) will refer to Martindale's *Extra Pharmacopoeia* (22nd edition, vol. I, p. 599) he will find that lotio hydrargyri perchlor., 1 in 1,000 solution with 2 in 1,000 hydrochloric acid, is recommended for prickly heat. I also have used this simple remedy with success, but can any reader tell me what is the effect of adding hydrochloric acid to the perchloride solution?

Relief of Nervous Tension

Dr. C. HORWITZ (London, N.1) writes: As an aftermath of the war there remains a great amount of residual nervous suffering among the population. That this is so is demonstrated by the frequent announcements over the wireless of the loss of dangerous drugs, mostly phenobarbitone, which are so largely prescribed as sedatives. I would like to draw attention to a method of relieving nervous strain and tension from which I myself and many of my patients have greatly benefited. It is by means of the method of progressive muscular relaxation as advocated by Dr. Edmund Jacobson, of Chicago, in his book on the subject published in 1929. Indeed, adequate training in muscular relaxation may be regarded as a prophylactic against the onset of a nervous breakdown for which rest is so often prescribed. But the patient must be taught how to rest and how to release the nervous tensions in various parts of his body. The method needs to be practised to become perfected, as one practises the piano or playing golf. To quote from an article from one of our leading psychologists and a great exponent of the method, Dr. William Brown: "The recuperating effects of rest and progressive muscular relaxation not only in mental and nervous disorders and diseases but also in physical illness, and in the normal stress and strain of life, have been admitted, indeed emphatically asserted, by medical practitioners throughout the ages."

The Blood Picture in Chicken-pox

Dr. H. ANGELL LANE (California, U.S.A.) writes: Dr. Thomas Parkinson's very interesting paper (Jan. 3, p. 8) prompts me to draw attention to an easily ascertainable fact, mention of which, however, I have not seen in the ordinary textbooks.

In the great majority of cases of chicken-pox will be found from the second to the seventh day of the rash only, (1) a "drift to the left" out of all proportion to the severity of the case, and (2) 2% to 7% Türk cells. These cells are generally smaller than those seen in cases of German measles and disappear from the picture after the seventh day, with the peak on the fifth (I have seen 12% then). I have found them rarely in cases of herpes zoster; in only one case, however, was this followed by chicken-pox in another member of the family.

Asthma and the Inhaler

Dr. A. W. PATERSON (Ipswich) writes: I have just seen with pleasure the letter by Dr. Paul Wingate (Jan. 31, p. 226) giving expression of his high appreciation of inhalations (for spasmodic bronchial asthma) of the bronchovydrin type. His letter represents almost exactly my own opinion regarding such of these preparations as I have used now for almost eleven years. Having read recently, and a few months ago, adverse opinions of such preparations on account of their effect on the bronchial mucosa and its cilia, I should like to support Dr. Wingate by stating the great benefit I have received during these eleven years without having observed any harmful affects whatever. Like Dr. Wingate, I feel the inhalations can to a great extent replace hypodermic injections, their effect being manifest in relieving an attack and in most cases aborting it in a few minutes. Prior to their use I had to rely on adrenaline injections, sometimes several times a day, and of course was thankful enough for them.

You may remember that I wrote to the *British Medical Journal* regarding the very great benefit I had received from these inhalations as I was anxious to share my means of relief with the many who suffer the extreme discomfort of severe asthmatic attacks. I felt that these bronchovydrin type inhalations, proprietary or not, should be more widely used and known.

Ovarian Cyst in an Infant

Dr. T. J. M. GREGG (Newbridge, Mon.) writes: When conducting a post-mortem examination recently on a five-months-old baby which proved to have died as a result of inhaling its own vomit, I discovered a very large thymus gland which completely covered the whole of the heart and was almost as large as one of the lungs.

I also discovered a pelvic cystic swelling which I thought might be of interest. This was a freely movable yellowish cyst about the size of a small hazel nut, situated near the end of the left Fallopian tube. The right tube was quite normal. I took the swelling to be an ovarian cyst. I have no access to advanced gynaecological literature and am unable to look up any references to previous similar findings, but I thought it worth my while to report my findings to you in case they may be of interest to other members of our profession.

The only other abnormality I detected was some engorgement of the blood vessels between the stomach and the transverse colon causing slight adhesion between these two organs.

Obituary

R. D. BEATSON HIRD, M.D., F.R.C.S.Ed.

When Robert Dennis Beatson Hird died on March 2 at the age of 67 the Midlands lost an outstanding figure in ophthalmology, a loss which will be felt keenly by colleagues, friends, and patients alike.

Beatson Hird received his medical education at the University of Birmingham. He and Sir Leonard Parsons were students together, and he graduated M.B., Ch.B. in 1905, proceeding M.D. a year later, and taking the F.R.C.S.Ed. in 1909. He was a native of Birmingham, and practically the whole of his professional life was spent in that city. He gave much of his time to public work, and among the many appointments that he held were those of honorary ophthalmic surgeon to the General Hospital and later to the Birmingham United Hospital; honorary surgeon to the Birmingham and Midland Eye Hospital; and ophthalmologist to the Birmingham Education Authority. He was also lecturer in ophthalmology to the University of Birmingham until 1945. During the war he served as Midland regional adviser in ophthalmology to the Ministry of Health.

A man of abounding energy and enthusiasm, he gave of his best at all times, both in his public appointments as well as in his private practice. From time to time he contributed articles to the medical journals, but it was in the clinical side of his work that his main interest lay. To this he brought keen observation and a meticulous attention to detail—a combination which rendered his work of the highest order and which was an example to those who worked under him. Nor was his view of ophthalmology a narrow one. He regarded it as only a part of the wider field of medicine, and in the sphere of medical ophthalmology his knowledge was unsurpassed. His opinion and advice were frequently sought by colleagues engaged in general medicine and surgery, and often his report gave the clue to diagnosis in difficult cases. He was a successful teacher, with a facility for imparting to his students a clear picture of the essentials of his subject. Many men now engaged in ophthalmic practice, not only in this country but in the Colonies, were once his house-surgeons and owe much to him for his advice and instruction at the outset of their careers.

His great enthusiasm for his work remained unimpaired throughout the years. In the early days of the war he suffered from a severe heart attack, but his enthusiasm and his strong sense of duty compelled him to return to full work after a few months. Nor did he then spare himself, and it would be difficult to overestimate his services to members of the Forces and to civilians who sustained eye injuries. Outside his profession he was a keen golfer until illness precluded active exercise, and among other hobbies was an interest in astronomy and a fondness for literature. There is no doubt, however, that his family life and his work were the main interests in his busy life. Beatson Hird will long be remembered both for his professional skill and for his sterling personal qualities.—C. R.

CHARLES H. RIVERS, M.D., M.R.C.P.

The march of events makes it improbable that provincial medicine will see again a man of the type or stature of Charles Rivers, who died on Feb. 28 at the age of 76.

Educated at King's College School and St. John's College, Cambridge, Rivers took the B.Sc. in 1894 and a second class in the natural science tripos in 1895. In the course of a distinguished undergraduate career in the medical school of Middlesex Hospital he held university and Broderip scholarships. He obtained the conjoint qualification in 1898 and was subsequently house-physician to Sir Richard Douglas Powell and Sir J. Kingston Fowler, and later demonstrator of pathology at the medical school. With a colleague he was co-founder of the *Middlesex Hospital Journal*. He took the M.R.C.P. in 1901, proceeded M.D. in the following year, and was later awarded the honorary degree of M.D. by Adelaide University.

After experience as a surgeon in the Boer War, Rivers worked in Australia from 1903–14 as honorary physician at the Adelaide Hospital and the Kalyra Sanatorium, and later as tutor in medicine, and examiner in forensic medicine at Adelaide University. During this period he made a close study of pulmonary tuberculosis, being among the pioneers of artificial pneumothorax therapy, and of haematology, and published some thirty papers on clinical and pathological subjects. It is of interest to note that he was treating myeloid leukaemia with *x* rays in 1905. In 1914, despite an assured career in Australia, Rivers decided to return to England. After three years as tuberculosis officer to the Kent County Council he settled in general practice in Redruth in 1917, joined the staff of Redruth Hospital, and became part-time medical officer of health for the district.

He brought to general practice a rare and varied experience and a determination to apply it. He founded his own clinical laboratory and maintained its work for thirty years. He built up adequate physiotherapeutic and diagnostic *x*-ray equipment, and he started the diagnostic and therapeutic *x*-ray work at Redruth Hospital. An acknowledged authority on the silicosis of metal-miners, he combined in his person the offices of consultant and practitioner, physician, pathologist, radiologist, and hygienist, and filled them all with real competence. A lifelong student, it is typical that in his seventh decade he studied, and became proficient in, electrocardiography. Rivers possessed the gifts of orderly method and a capacity for sustained effort. He made decisions carefully, and did not alter them lightly. An individualist, he was fervent, even choleric, in controversy, but ever courteous and jealous for the dignity of his vocation.

Outside his work he was a man of wide culture and a good classical scholar. An accomplished musician, the foundation of the Cornwall Symphony Orchestra, which he directed and conducted personally, was an achievement he held dear. His fortitude in his final infirmity was as impressive as was his passion to work in spite of it. His colleagues will long respect the memory of one whose death marks an epoch and whose manifold attainments are unlikely again to come within the scope of one man. Their sympathy is extended to his widow and five sons, of whom one is a doctor.—L. W. H.

Dr. JOHN MCEWEN DALZIEL, who died in London on Feb. 21 at the age of 75, was born in India and educated at Dollar Academy and Edinburgh University. He graduated M.B., C.M. in 1895, proceeded M.D. in 1903, and took a B.Sc. in Public Health in the following year and also the diploma in tropical medicine. Dr. Dalziel joined the West African Medical Service and became finally deputy director of sanitary services on the Gold Coast. He wrote several books on the plant life of West Africa and also *A Hausa Botanical Vocabulary*.

Dr. WILLIAM MINTY BADENOCH, of Leyton, London, E., died on Feb. 22 at the age of 64 after a short illness. He was born in Banffshire, Scotland, and educated at Aberdeen University, where he graduated M.B., Ch.B. in 1908. After some experience of hospital work and of general practice he settled in Leyton in 1912. Two years later he joined the R.A.M.C. and saw service in France, Gallipoli, and Mesopotamia. He was mentioned in despatches on two occasions, was severely wounded, and left the Army with the rank of major. After the war he went back to Leyton and gradually built up a large practice. He was for many years the "J" Division police surgeon, and for six years he acted also as deputy coroner for the Metropolitan district of Essex. During the recent war his home was destroyed, and for some months afterwards he worked at a temporary surgery in part of the Leyton Vicarage. Dr. Badenoch was chairman of the South-west Essex Division of the British Medical Association in 1928–9. He was vice-chairman of the parochial church council for many years, and he acted as medical officer to the 35th City of London Battalion of the Home Guard. He is survived by a widow, a daughter, and a son, Dr. John Badenoch.

Dr. DOUGLAS ROBERTSON died at his home on March 6 at the age of 49, after a fall earlier in the day. He had been ill for about two years previously. Dr. Robertson graduated M.B., Ch.B. at Leeds in 1921, and was a son of the late Dr. H. M. Robertson, who was in practice in Roundhay, Leeds, for many years. For thirteen years after qualifying he practised in Longtown, Cumberland, where he was medical officer of health for the district. He had been in practice at Thornton-le-Dale since 1934. He was on the staff of the Malton Cottage Hospital, and was medical officer for the Allerston district.

Medico-Legal

LIBEL ACTION BY MR. MATTHIAS ALEXANDER

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

In the Rand Division of the Supreme Court of the Union of South Africa, on Feb. 16, Mr. Justice Clayden began the hearing of an action for libel brought by Mr. Frederick Matthias Alexander, of London, against three medical men: Dr. Ernst Jokl, Physical Education Research Officer to the Union Education Department, Dr. E. H. Cluver, Director of the South African Institute for Medical Research at Johannesburg, and Dr. B. Maule Clark, of Houghton, Johannesburg, as editors of *Manpower*, a biannual scientific journal published in Pretoria by the Government Printer and circulating throughout the Union.[1]

Mr. Alexander alleges that the defendants published an editorial article and an introductory note, entitled "Facts and Phantasies," to a further article implying that he made false claims as to the scientific value of his technique, and that from the scientific point of view the technique was contemptible and nonsensical; that he was untruthful and dishonest, a charlatan and a quack; that he had given the public dangerous and criminally irresponsible advice; that for personal gain and to attract people he had held out false promises of the benefits to be derived from following his teachings; and that he was mentally deranged and unbalanced. He further alleges that he has for fifty years been carrying on for reward the profession of teaching and expounding his technique, and that from the offending publication he has suffered damages in the sum of £5,000. The defendants admit publication, deny defamation, and alternatively plead truth and fair comment in the public interest.

Mr. O. Pirow, K.C., appearing for the defendants, explained that the case for the defence was that the matter complained of represented an evaluation of Mr. Alexander's four books *Man's Supreme Inheritance, Constructive Conscious Control, Use of the Self*, and *The Universal Constant in Living*. These claimed to set out the plaintiff's philosophy and technique, and the defence alleged that the contents represented, in the main, testimonials and sales talk intended to advertise the teachings of his technique, but that they also contained, centring round his alleged discoveries of conscious and/or primary control, advice, claims, and statements which represented dangerous quackery.[2]

Case for the Plaintiff

Mr. H. J. Hansen, K.C., opening the case for Mr. Alexander, said that he had evolved a technique and ideas which had received favourable comment from such eminent persons as Sir Charles Sherrington, Mr. John Dewey, the American philosopher, Mr. Aldous Huxley, and Sir Stafford Cripps. Mr. Alexander had never pretended to be an expert physiologist, but was an educationist who had made certain observations in investigating the use and misuse of the body. In his four books he had developed the general theme that man in the course of thousands of years had developed from an unconscious creature, acting on instinct, toward a completely conscious being, that this process had been tremendously accelerated, especially in the last hundred years, and that to-day man had to rely more than ever before on a conscious reaction to his environment and the conscious use of his body. On the one hand he was to realize that there should be no conscious interference with such reflex or subconscious activities as digestion, and on the other he had consciously to understand what was the correct use and the misuse of the body, so that incorrect habits could be corrected. For instance, a man sitting for long periods at a desk would tend to hunch his shoulders and would in time come to regard that as a normal posture. To correct the error he would have to learn, on sitting down, consciously to resist the tendency to hunch the shoulders, and then consciously to obey instructions to assume a correct posture.

Dr. Jokl, one of the defendants, had met a teacher of the Alexander technique, had made some comments on the method as taught to children at the teacher's school, and had later referred to it in an address to the South African Association for the Advancement of Science. Finally came the article in *Manpower*. The general tone of the references to Mr. Alexander was scathing and derogatory, and they implied that he was a charlatan and a quack. Mr. Alexander was 80 years old; after all arrangements had been made for him to come to Johannesburg he had had a stroke and was now unfit to travel.

Mr. Pirow then submitted that the action had not been brought within the statutory period of twelve months, but the judge declined to decide that issue first.

Personal Testimony

Dr. Wilfred Barlow, giving evidence for Mr. Alexander, said that he had qualified in medicine in 1937 and had spent an extra year at Oxford on B.A. physiology. He had hurt his shoulder at sport and suffered from repeated dislocation; through following Mr. Alexander's methods he was at last able to prevent his shoulder blade from slipping out of its socket. He had become a student and later a qualified teacher of the Alexander method. What he had seen in the clinical wards of St. Thomas's Hospital had made him realize that Mr. Alexander had made an important discovery which could help in the treatment of bad muscular co-ordination or misuse. He quoted passages from a textbook issued by the Council of Physical Therapy of the American Medical Association which he said supported Mr. Alexander's theories on the effect of faulty body mechanics on health, and from articles in the *British Medical Journal*, the *Lancet*, the *Medical Press*, and the *Journal of the American Medical Association*, all of which he said were in appreciation of Mr. Alexander's work.

Cross-examined by Mr. Pirow, he said he believed, as an ideal, Mr. Alexander's argument that physical guidance by conscious control should in time make man immune from disease. Examples of how conscious control could benefit a man's health could be multiplied indefinitely. He would advise patients suffering from acute and operable cancer or appendicitis to be operated upon, and in all cases he would recommend a course of after-care instruction in proper body mechanics to improve the patient's use of his body and promote health. Mr. Alexander did not claim to cure disease but to promote its elimination.

Dr. Dorothy Drew, a London practitioner, said that she had been injured in a car accident as a student and that during the war, owing to heavy work and responsibilities, her health had deteriorated and broken down. She had become a pupil of Mr. Alexander in London, and as a result of his lessons her sinusitis and appendix trouble had cleared up, her injured arm did not bother her any more, and she felt fully healthy.

Mr. N. E. Coaker, K.C., of Johannesburg, the next witness, said that his son, when aged four, had fallen and sustained concussion and a minor skull fracture. One leg had dragged and an arm had been affected, and he had suffered from serious mental disturbances. After a course of the Alexander technique with a Johannesburg teacher the affected leg had thickened to the same size as the other, there had been no trace of drag or uncertainty, the hand and arm had returned to normal, and the temperament was strikingly stabilized. To-day the boy was outstanding both academically and in athletics. An elder son who had suffered from continuous attacks of bronchitis had gained perfect health through a re-educative course in body mechanics, and he had himself benefited from a similar course. He had been present at a demonstration of the Alexander technique by a local teacher at which Dr. Jokl had been examined. His own knowledge of the technique had shown him that the doctor's head was pulled back; he had a great roll of flesh at the back of his neck; one shoulder was slightly dropped, and he had a "Charlie Chaplin" walk. These conditions had been demonstrated to Dr. Jokl, and after manipulation he had acknowledged the improvement. An article by Dr. Jokl had been published in the *Transvaal Educational News* side by side with another setting out the Alexander view. Later he had seen an article

[1] *Johannesburg Star*, Feb. 16.
[2] *Cape Argus*, Feb. 17, 18, 19, 20, 23, 24, 25 and 26.

submitted by Dr. Jokl for publication in the *South African Scientific Journal* and had complained to the publications committee that it was "defamatory, untruthful, ill-informed, common, and vulgar."

In answer to cross-examination, he said that after a course in the Alexander technique his conscious use of his body and his psycho-physical condition were improved, and this had had a remedial effect on various complaints. He rejected the suggestion that the improvement might be due to faith-healing. Certain methods involving natural laws had been practised and had produced expected results. He could not agree with Mr. Alexander that prevention would be unfailing in time, but he did not think the claim outrageous.

Miss Irene Tasker, a teacher of the Alexander technique, said she was an honours graduate of Girton and had studied under Dr. Montessori. After seeing in 1916 the effects of the Alexander technique on one of her pupils, she had inquired into the method and had become an assistant to Mr. Alexander in London; she had started teaching his methods in South Africa in 1935. She would take no pupil who refused to see a doctor. She had first met Dr. Jokl in June, 1941, when he had expressed interest and asked her to lecture. About a year later he had telephoned to her saying he was a scientific inquirer and wanted to see what the technique was about, and that he had become particularly interested on hearing that Sir Stafford Cripps supported Mr. Alexander. At a later demonstration she had shown that Dr. Jokl "pulled himself down" to a seat. After one manipulation his condition had been improved, but when he had sat down again he had reverted to the old habit. He had written her a letter in which he had thanked her for the "most interesting and able demonstration" she had given, and had added, "I certainly feel that your system means a highly important contribution in the field of education in its widest sense, and am looking forward to learning more about it from you." She had later received a request from the doctor to take a course. She had asked him why, and he had replied that it was just a rhetorical question to test her reaction. She had suggested that he should see Mr. Alexander himself.

Sir Stafford Cripps's Experience

Mr. Hansen handed in evidence taken on commission in London from Dr. Whittaker, Dr. Peter McDonald, Lord Lytton, Sir Stafford Cripps, and two other doctors. Sir Stafford Cripps's evidence said that he had protested strongly to the High Commissioner for South Africa against what he considered a gross libel of himself in the article in *Manpower* published by the Union Government. Mr. Alexander's lessons had made him feel much freer in his movements and much more rested. At the end of a two-hours speech in the House made immediately after a lesson he had not felt in the least bit tired.

In cross-examination Sir Stafford said that he had adopted the Alexander technique and vegetarianism for colitis and various internal complaints. "The extraordinary thing is that when you experience it, you become perfectly convinced he is right." In re-examination he quoted from the offending article: "The best way to explain the amazing quackery is to look on it as a typical instance of group hystero-neurosis." His own and other names were mentioned, and there was a reference to "highly intelligent persons." The general tenor was obviously that anyone associated with this Alexander teaching was either a fool or a knave.

The Earl of Lytton, formerly Governor of Bengal and for a short time Viceroy, had said on commission that a young Indian civil servant whose health had broken down had returned from England "a new man, happy and cheerful" after treatment by Mr. Alexander. He himself had consulted Mr. Alexander on account of being much run down in health and having had a chronic headache for several years. Mr. Alexander had pulled him about and generally used his hands to put him in the position in which he wanted him; then he had said, "There, that is your place in nature now. If you always keep like that, you will always feel well." Lord Lytton had felt extremely uncomfortable and misshapen in that position, but had had very much better health. Mr. Alexander had emphasized that he was not a doctor and it was not his business to diagnose or remove complaints but to teach all his pupils to make the best use of themselves. Lord Lytton had encouraged him to start a school and training centre, of which he was still a trustee. This concluded the case for Mr. Alexander.

Views from Physiologists

Counsel for the defence read evidence taken on commission from Prof. Samson Wright, John Astor professor of physiology in the University of London, who said he had made a careful and unbiased study of Alexander's books. These made many assertions which if accepted would revolutionize the whole approach to medicine, but no records were given of any case-histories, nor of examinations of large numbers of patients, nor of findings based on these which would permit an impartial person to examine and judge for himself the value of the assertions. Unless Mr. Alexander could tell in detail the methods he used, readers were not justified in attaching any credence to his affirmations about "deceptive sensory appreciation." Statements on the function of certain organs, such as the lungs, were "just nonsense," as was a description of the chest and abdomen as resembling a stiff oblong rubber bag.

A detailed analysis of the books suggested that, possibly through lack of formal training in physiology, Mr. Alexander had not that standard of physiological knowledge which would enable one to take his affirmations on trust, and one must treat with the utmost scepticism any claims he made dealing with effects on respiration and circulation. The contention that conscious control could regulate every function of the body was quite out of keeping with what could be easily demonstrated. In this as in other claims the onus was on Alexander, seeing that his affirmations were entirely contrary to all the established evidence about the degree of control of the internal organs by the mind or will, to establish his case. Until he did so the gravest scepticism was called for in accepting his conclusions.

In the special field of the physiology of physical education and related subjects Dr. Jokl was probably one of the leading authorities in the world, and was eminently equipped by his knowledge and investigations to comment very competently on any physiological statements made by Mr. Alexander. What Sir Charles Sherrington had actually said about Mr. Alexander's work was: "Mr. Alexander has done a service to the subject by insistently treating each act as involving the whole integrated individual, the whole psycho-physical man." If that were all Mr. Alexander had said in his writings, it was, in Prof. Samson Wright's view, a very minor service; but as this thesis was combined with an immense amount of material which was entirely untrue and misleading and probably dangerous, he had, taking his writings as a whole, rendered a great disservice to the community.

Sir Henry Dale's evidence, also given on commission, said that he had found in Mr. Alexander's books "no intelligible account of any scientific discovery." They struck him as a mass of pretentious verbiage, and he would call the teaching quackery. A given paragraph was very much in keeping with the general style and tendency to vague assertion of advertisements of proprietary nostrums.

Evidence by the Defendants

Dr. E. H. Cluver, one of the three defendants, said in evidence that he had studied at Oxford under Sir Charles Sherrington, and in 1919 had been appointed professor of physiology at the Rand University on Sir Charles's recommendation. He had written two standard textbooks on practical physiology and one on public health in South Africa, and had been Secretary for Public Health in 1938. In November, 1943, a Member of Parliament had drawn his attention to an alleged cure by the Alexander method which, in accordance with his practice, he considered it his duty to investigate. He had studied the book *Constructive Conscious Control* and had glanced through others. The contents had seemed to him to be nonsense which could be left alone, something that only wealthy neurotics could fall for. The statements about wrong sensory perceptions showed no knowledge of the physiological facts and a wrong conception of the physiology of the human being. Any

student knew that man could not consciously control all muscular activity by the Alexander technique. His reaction had been that this matter fell into the same category as the alleged cures for cancer that he received. Later, however, he had heard that it was seriously proposed that this technique should be introduced into the schools of South Africa. He had regarded this as a most shocking proposal, a very serious threat to the health of school-children, a pernicious and dangerous proposal, and he had decided that something must be done to oppose it. He had heard that Dr. Jokl had already encountered the protagonists of the scheme, and told him that the matter was so serious that they should expose it in *Manpower*. Dr. Jokl had been most reluctant, but on being urged had eventually prepared the article as an acknowledged authority on the subject.

Cross-examined by Mr. Hansen, Dr. Cluver wrote down the name of the woman Member of Parliament who had claimed that "a pain in the back" had been cured by the Alexander method, and agreed that she was a person of considerable intelligence. He had not tried, beyond reading the books, to discover what the Alexander technique was. He understood that the general theme was that man could be given conscious control of his involuntary muscular system—"which is nonsense." If he were told that this was not Mr. Alexander's meaning, that might cause him to revise his ideas, but the statements in the books showed gross physiological misconceptions. He felt that this pernicious technique had to be exposed in the public interest. In using such epithets as "pernicious," "dangerous," and so on, he was quite dispassionate, his only object being to protect school-children. He knew of no harm caused by the technique, but there was potential harm.

The epithets "Australian actor," "Australian gym master," and "Australian immortal" were not intended as abuse but to show the background of the man who had made these amazing claims, as was right "in exposing quackery of this kind." He thought that most of the people, but not all, who supported Mr. Alexander or claimed to benefit from his technique were neurotics. He agreed that he had himself written in 1943 a non-technical book in which he had made the point that man's instincts were not adequate to cope with the change in man's physical and psychological state and environment and that education was essential, that much sickness could be prevented by proper methods, and that mental or psychological maladjustments often caused conditions which led to disease; and he had expressed the hope that in time most disease might be prevented. He asserted, however, that this differed very much from Mr. Alxander's concepts, which were based on quite different and physiologically quite erroneous foundations. In re-examination, he explained that his theme had been that if man's physical and psychological environment could be created with all the correct factors medical treatment would become largely unnecessary and men should reach a much greater age than to-day. This had not the remotest connexion with Mr. Alexander's ideas.

Dr. E. Jokl said in evidence that he had been born in Breslau in 1907, had come to South Africa in 1933, and had been labour and manpower adviser to the Industrial Development Corporation. Since 1941 he had been a member of the National Advisory Council for Physical Education to the Union Government. He had been engaged in physical education research for over twenty years. When he had asked Miss Tasker to show him her methods he had been head of the Department of Physical Education for the Rand Technical College and had approached anyone who he thought might contribute to its studies. He had not been impressed with the demonstration and had never suggested that he was impressed. Later Miss Tasker had indicated that she could not give him lessons. As a scientific inquirer he had considered this curious and so had begun to read Mr. Alexander's books. He had felt it necessary to reply to an address on the Alexander technique given by a school inspector and later published in the Press. The trend of the articles for the Alexander method had been that the experts should now either accept or reject it. The challenge had been thrown out and he had accepted it. After criticisms of his *Manpower* article had appeared he had gone to England, where he had found that all the "top-notchers" in medicine were interested, and he had been inundated with offers of evidence in support of his statements about the technique. Sir Charles Sherrington had personally introduced him to Sir Henry Dale. Asked about Sir Stafford Cripps, he replied that colitis was "one of the notorious diseases which react in many people to suggestion treatment, faith cures, hocus-pocus."

Counsel put to Dr. Jokl a letter written by Sir Charles to Mr. Alexander in which the sentences occurred: ". . . I appreciate the value of your teaching and observations. . . . I know some of the difficulties which attach to putting your ideas across to those less versed in the study than yourself. Your disciples, however, can more and more disseminate them and multiply your call." After hearing of the publication of this private letter, Sir Charles had been disgusted and had told him he considered Mr. Alexander "a dangerous quack." The letter was one of conventional kindness, as had been his own letter to Miss Tasker. He had genuinely desired to have lessons from her to learn more about the method. He agreed, however, that letters written by him in 1943 included a bitter attack on Miss Tasker and a statement that he wished "to expose the Alexander technique and attack the racket." Most of the Alexander supporters were neurotics. They were all very clever people and there was nothing wrong with their intellect, but their emotional make-up was maladjusted. He quoted many passages from Mr. Alexander's books to support his contention that Mr. Alexander's "unqualified claims" included conscious control of the viscera. Re-examined, he said he had no quarrel with Mr. Alexander's claim to improve posture but with his claim that a particular method of attaining posture would ensure "unfailing health—curative, preventive, and promotive."

This completed the evidence for the defence, and counsel then addressed the Court.

(To be concluded)

Medical Notes in Parliament

National Assistance Bill

When the Report stage of the National Assistance Bill was taken in the House of Commons on March 5 Mr. JOHN EDWARDS moved to amend Clause 5 (Determination of Need for Assistance) by leaving out the words "pulmonary tuberculosis" and inserting "tuberculosis of the respiratory system." He said it was proposed to alter the wording to ensure that the Clause covered all infective forms of the disease.

Mr. SOMERVILLE HASTINGS asked what would happen in the case of a man who was discovered to be suffering from tuberculosis of the lungs after he had become so ill that he had had to leave his work. In that case he would not suffer loss of income by entering a hospital or sanatorium.

Mr. JAMES GRIFFITHS said the Ministry of National Insurance would prepare regulations to meet the kind of case referred to by Mr. Hastings.

The amendment was accepted, and on the motion that Clause 5 stand part of the Bill Mr. GRIFFITHS said that under this Clause the Board would be under an obligation to make special regulations in regard to blind persons and those suffering from tuberculosis of the respiratory system. The Clause as amended was ordered to stand part of the Bill. Amendments were made in further Clauses and the Bill was reported to the House.

Mr. STEELE moved that the Bill be read a third time. He took the opportunity to give an assurance that the National Assistance Board would include someone from Scotland and someone from Wales.

Mr. SOMERVILLE HASTINGS said that under the Bill one class of people would suffer. They were the district medical officers who administered medical assistance under the Poor Law. These officers were not in the true sense part-time officers. Although they were not employed whole-time they gave a twenty-four-hour service. Moreover, they were called "Senior Poor Law Officers" and could not be discharged by a local authority except with the consent of the Ministry. As they were permanent officers he asked Mr. Griffiths to be sure that justice was done to them in the grant of compensation.

Mr. JOHN EDWARDS, replying for the Government, did not take up the point raised by Mr. Hastings. The Bill was read a third time without a division.

Educational Psychology

On March 4 Mr. C. W. DUMPLETON drew attention to the Ministry of Education's Circular No. 146, which dealt with educationally subnormal children and with the selection and approval of medical officers in connexion with the certification of children and the determination of educability. The circular provided, under the heading of "Intelligence-testing for statutory ascertainments and reporting," that the authorities were required to consider the advice of their approved medical officers. In accordance with a previous clause of the circular an approved medical officer was one who had taken a course under the London University Extension and Tutorial Classes Council in conjunction with the National Association of Mental Health. This course was one of only three weeks. It was laid down that the form incorporating the advice of the medical officer must be completed entirely by him and that no part of the examination must be made or recorded by any other officer of the authority. This seemed to Mr. Dumpleton to brush aside the services of the educational psychologist and to deny to medical officers the right which medical men in other situations always had of calling in the aid of the specialist. Educational psychologists had to undergo years of training and were trained in educational work as well as in psychology. He suggested that a legal certificate could be signed by the medical officer and that the educational psychologist could still make an examination and fill up a separate form.

Mr. HARDMAN, replying for the Ministry of Education, said that the Ministry did not desire to belittle the work or status of educational psychologists nor to ignore their help in dealing with the educationally subnormal child. The paragraph in Circular 149 which said that the form must be completed in its entirety by the doctor made it difficult to use to the full the educational psychologist in the ascertainment of subnormal pupils. Because of that the Ministry would agree to amend this rule in such a way as to make it clear that the educational psychologist could play his full part. This would entail some revision of the statutory medical report form. Mr. Tomlinson was prepared to consult the Advisory Committee on handicapped children about this revision. At the same time the House had to remember that the law required a medical report, and this meant a report from a qualified doctor. The Courts would only recognize such a report, and to prepare it the doctor must make a mental and physical examination of the child. He must study its behaviour systematically as well as summarizing its general reaction. The intelligence test could be carried out by an educational psychologist who would accompany his record with comments in order to assist the reporting doctors. He agreed that for the majority of retarded children the educational problem was the primarily important one and that educational psychologists in co-operation with teachers were better equipped than doctors to diagnose the trouble and prescribe the treatment. At the same time the Ministry had to remember the right of the parents to appeal to the Minister, and it would be improper to take formal action without making a report which could be laid before the Minister. A way could be found by administrative action of utilizing the abilities of the educational psychologist.

Medical Manpower

When the Army Estimates were discussed on March 9 Dr. HADEN GUEST spoke of the atom bomb, bacteriological warfare, and new forms of chemical warfare. He hoped the House would discuss these subjects in a civil defence debate or on some special occasion. The atom bomb was expensive to produce, but bacteriological warfare was cheap. The resources of a good county public health laboratory were sufficient for manufacturing the deadliest germ weapons. The association between civil and military organizations would consequently have to be much closer. The problem as it applied to medical officers in the Services was an example of the difficulties to be faced. At present there was great difficulty in supplying the full quota of medical specialists to the Army and a lesser difficulty in the other Services. The difficulty would be greater in 1949 because from the beginning of that year the period of service would be one year only and it would be, for practical purposes, impossible to make the services of these officers available in distant theatres. As a rule the medical officer of an age which made him subject to calling up had not had time in which to take the higher specialist qualifications.

The National Service Act allowed the service of specialists to be deferred to a later age, but in effect the specialist who was called up would be a junior specialist. They could not expect the man under thirty to be capable of acting as consultant medical officer. Yet it was upon highly placed consultant officers that the efficiency of the medical service would depend. The difficulty was increased by the demands made on medical manpower in other fields. When the National Health Service Act came into operation it would demand an immediate increase in the number of specialists in many areas of this country and shortly afterwards would also demand an increase in the number of general practitioners. Demands were also rightly made on medical manpower for the Colonial Service. It had been necessary to make a special arrangement in West Africa and in another colony by which medical men recruited for what would normally have been military duty were allocated to service in the Colonies and that service was accepted as discharge of their military obligation. The expansion of civil defence which had been announced would be another large drain on medical manpower. Dr. Guest trusted that co-ordination of common services within the Forces could be carried out immediately. There was no sense in the medical services of the Navy, Army, and Air Force having different kinds of forms on which to report the same kind of disability. They should have the same forms and in their administration the same rules. The demands of the services for specialists and administrative officers could be met only by creating a large number of regular commissions or of short-term commissions for five years. Unification of the medical services of the three Services would bring an economy of medical personnel by between 5 and 10%. The three medical services co-operated in Malta and worked together in Hong Kong and other areas. During the war most of the hospitalization of casualties was carried out by the Army whether the casualties were from the Navy, the Army, the Air Force, or were civilians. He trusted that the whole of the medical services would be co-ordinated into one to include the National Health Service, general and special services, and also the Army, Navy, Air Force, and Colonial Services.

During the war the medical base for the treatment of casualties was largely in the hands of the Emergency Medical Service, a civilian organization whose good work had not yet been fully recognized. A unified medical service would make it possible for superannuation schemes to be interchangeable between one branch and another. It would give every medical man or woman a wider opportunity of choosing a career. This practical proposal had been discussed by many medical and military authorities. The same considerations applied in large measure to scientific and technical services of other kinds.

Replying to the debate Mr. STEWART said Dr. Haden Guest had a special knowledge of the medical services in the Army. Mr. Stewart admitted that there was a shortage of specialists and said it was difficult to see an immediate remedy. The Army was by no means the only sufferer. It was important to make the best use of the specialists which the Army possessed. An investigation in which Dr. Haden Guest had shared had concluded that the Army Council was acting rightly in that respect. As Dr. Guest suggested, further economies were possible by co-ordination between the medical services of the three defence Services. A recently appointed committee was working on that problem. Mr. Stewart hoped that it would help to provide a solution.

Improvised Health Centres

Sir ERNEST GRAHAM-LITTLE asked on March 9 whether Mr. Bevan knew that the East Sussex County Council proposed to improvise health centres out of premises orginally provided as maternity and child welfare clinics.

Mr. BEVAN said there was no question of improvisation. The County Council proposed to continue to use the premises for the maternity and child welfare service. He had no evidence that they were unsuitable for that purpose.

On March 10 Sir ERNEST GRAHAM-LITTLE asked Mr. Bevan if, in issuing his final invitation to individual doctors to join the new Health Service, he would make it clear, especially to general practitioners, that the provision of health centres was indefinitely postponed, and that with that postponement it would be impossible to supply the facilities for carrying out the numerous services detailed in Section 21, with the result that the young doctor commencing medical practice would have to find for himself the equipment necessary, by the appointed day.

Mr. BEVAN referred to the answer given on Feb. 10 to a previous question by Sir Ernest Graham-Little (*Journal*, Feb. 28, p. 421).

Hospitals Taken Over.—Mr. BEVAN informed Mr. Linstead on March 11 that he had advised all hospitals which appeared to him liable to be taken over. He added that he was deciding, with the help of the Regional Boards, which hospitals it would be proper to disclaim.

Grants for Medical Students.—On March 11 Mr. TOMLINSON told Dr. Santo Jeger that at present 2,540 grants from the Ministry of Education for medical students were in force. Of these, 2,509 provided for the payment of full fees and a maintenance grant, 6 for a maintenance grant only, 3 for full fees only, and 22 for part fees only. Local Education Authorities also gave grants to medical students, but figures for these were not available.

Mental Hospital Officers.—Mr. BEVAN told Mr. Dumpleton on March 11 that he would not amend Regulation 29, in respect of mental health officers under the National Health Service Act, so as to give the same treatment to all mental health officers with regard to their previous service. Mr. Dumpleton alleged discrimination between staffs of the Mental Hospital Service and the Certified Institution Service. Mr. Bevan added that he was considering whether it would be possible to amend the basis as regards the officers of mental deficiency institutions to enable them to get a just measure of benefit in respect of their future service.

Extra Rations for Invalids.—Asked on March 11 why the Minister of Food had refused to grant additional rations to a boy whose own medical adviser had given a certificate that the boy had intermittently suffered from asthma for seven years, Dr. SUMMERSKILL said the Ministry's medical advisers never undertook to examine applicants for special rations, but always accepted the diagnosis of the patient's own medical adviser. Their unwelcome task was to advise on the relative needs of different groups of invalids bearing in mind the limited amounts of rationed food available. The need of uncomplicated cases of asthma for extra rations was not such as to justify a claim on this limited supply.

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on Feb. 28 the degree of B.M. was conferred on Elizabeth A. Bevan John.

UNIVERSITY OF CAMBRIDGE

The following medical degrees were conferred on Feb. 28:

M.D.—G. E. Ffrench, C. P. Petch, W. H. H. Jebb, G. M. Barrett, J. W. Bromley, J. N. Horne, W. Warren.

M.B., B.CHIR.—*R. C. Roxburgh, *E. H. Griffiths, *J. P. D. Thomas, *F. G. Tomlins, A. H. Jones.

* By proxy.

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

The following medical degrees were conferred on March 10:

M.B., B.Ch., B.A.O.—W. B. Alcott, Brenda M. Charles, J. F. Connolly, Sheila Davies, G. W. Keating, J. D. Keatley, J. W. McCaw, K. McIntyre, C. M. Marcus, D. J. J. Waugh.

UNIVERSITY OF LONDON

The examinations for the M.B., B.S. degrees in October, 1948, April, 1949, and October, 1951, will start one week later than the dates laid down in the Regulations, provided the necessary accommodation is available.

For examinations in and after 1949 the external and general internal first examinations for medical degrees will be held one week earlier—i.e., beginning the last Monday in June.

UNIVERSITY OF MANCHESTER

The Council of the University has accepted a gift of £1,000 made by Mrs. Lapage to establish in memory of her husband, the late Dr. C. Paget Lapage, a prize which will be offered annually for award on the paediatrics section of the final examination for the degrees of M.B., Ch.B. Dr. Lapage, who was a graduate of the University and a member of the University Court, was for many years on the staff, being since 1934 Reader in the Diseases of Children.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The Royal College of Physicians of London has arranged a course of postgraduate lectures in medicine to be given from May 3 to June 25, at 5 p.m. There will be approximately 26 lectures. The full programme is not yet complete but preliminary details can be obtained from the College (Pall Mall East, London, S.W.1). The inclusive fee for the course is £7 7s. and the total entry will be limited to 200. Fees are payable in advance and must be received by April 19.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At an ordinary meeting of the Council of the College, held on March 11, with Sir Alfred Webb-Johnson, Bt., President, in the chair, Mr. C. Gill-Carey, Mr. T. P. McMurray, and Mr. S. A. S. Malkin were elected Fellows of the College. The appointment of Sir John Anderson, F.R.S., and Sir Henry Dale, F.R.S., as Trustees of the Hunterian Collection was reported. Dr. A. D. Marston was elected the first Dean of the Faculty of Anaesthetists in the College. A Hunterian Professorship was awarded to Dr. Shafik Shalaby, of Cairo.

The following hospitals were recognized in respect of the resident surgical posts required of candidates for the Final Fellowship examination: Royal Infirmary, Oldham (assistant resident surgical officer); St. Luke's Hospital, Guildford (senior house-surgeon); Altrincham General Hospital (resident surgical officer for a period of two years in the first instance); Royal Northern Infirmary, Inverness (recognition now to be made permanent).

Diplomas of Fellowship were granted to the following successful candidates:

G. R. C. Peatfield, A. D. Messent, C. McK. Craig, P. J. Blaxland, H. H. Renyard, N. S. Slater, D. H. G. Walker, N. W. Gill, G. M. Lunn, J. H. Tasker, W. A. Hamer, R. N. Jones, A. E. Wall, A. J. H. Rains, A. G. Ellerker, W. Waugh, S. S. Bassi, L. D. C. Austin, H. A. Oatley, N. A. A. Cust, A. N H. Peach, E. K. Gardiner, L. C. McCarthy, F. W. Taylor, J. A. Aylwin, E. O. Dawson, D. W. Fleming, M. E. Hall, R. G. R. Langford, J. M. Sanderson, A. R. Wakefield, H. Bolton, D. B. Duffy, V. G. Walker, R. B. Welbourn, P. R. Wright, J. W. F. Macky, A. V. Pollock, A. L. El-Bedri, U. D. Nagarkatti.

A Diploma of Membership was granted to S. Basu.

A Diploma in Public Health was granted, jointly with the Royal College of Physicians of London, to A. W. Mearns.

SCOTTISH CONJOINT BOARD

The following candidates, having passed the final examinations, have been granted the diploma of L.R.C.P.Ed., L.R.C.S.Ed., L.R.F.P.&S.Glasg: G. G. Allan, S. I. Arendse, A. J. Barr, Mary H. Bruce, G. Cameron-Mowat, Margaret G. R. Davidson, Mary A. Hamilton, G. J. C. Herd, S. Hopfan, Nora A. Howie, P. Katz, C. Kopet, J. T. Lees, J. D. C. Lyons, J. McCulloch, I. McLeod-Baikie, Mary C. MacRae, Jeanne G. Marshall, Rosabelle J. B. Purves, Catherine J. A. Robertson, S. S. Ross, J. N. Shea, J. B. Thompson, J. E. H. Tullis, W. F. Watson, H. Weiss, B. Winocour.

The Services

Surgeon Lieutenant-Commanders G. E. M. Benson and G. L. Foss, R.N.V.R., have been awarded the R.N.V.R. Decoration.

Air Vice-Marshal P. C. Livingston, C.B., C.B.E., A.F.C., has been appointed Director-General of Royal Air Force Medical Services in succession to Air Marshal Sir Andrew Grant, K.B.E., C.B.

AUXILIARY ROYAL ARMY MEDICAL CORPS FUNDS

The annual general meeting of the members of the Auxiliary Royal Army Medical Corps Funds will be held at 11, Chandos Street, London, W., on Monday, April 5, at 5.30 p.m., when the report and accounts for 1947 will be presented and officers and auditors elected for 1948.

DEATHS IN THE SERVICES

Squadron-Leader MICHAEL JOHN CAHALANE died in hospital on Feb. 20. He was born in July, 1892, and was a student at Glasgow University. He graduated M.B., Ch.B. in 1918 and acted as house-surgeon at the Royal Maternity Hospital, Glasgow. He was then commissioned in the Royal Army Medical Corps, in which he served until August, 1920, when he transferred to the Medical Branch of the Royal Air Force. On relinquishing his temporary commission in 1934 he was appointed civilian medical officer at the London Recruiting Depot of the Royal Air Force. In this capacity he continued to serve until June, 1940; when he was again granted a commission as flight-lieutenant in the R.A.F.V.R. He was promoted to the rank of squadron-leader in January, 1943, and in recent years had been employed in this country on medical board duties.

The National Baby Welfare Council (29, Gordon Square, London, W.C.1) has issued a pamphlet entitled *Antenatal and Post-natal Exercises*. It is obtainable from the Council for 1d. and 1d. postage. Simple diagrams illustrate the exercises, and notes attached to each describe how and when they should be carried out.

No. 9

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Feb. 28.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948 (a)	(b)	(c)	(d)	(e)	1947 (Corresponding Week) (a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	31	2	15	6	1	74	9	29	2	1
Deaths		—	1				2	—		
Diphtheria	173	13	38	11	8	186	15	46	16	6
Deaths	1	1	—	—	—	5	1	2		—
Dysentery	145	12	65	—	—	92	16	16	—	—
Deaths				—	—					—
Encephalitis lethargica, acute	—	—	1	—	—	2	—	—	—	—
Deaths		—					—			
Erysipelas			46	8	2			44	13	1
Deaths		—					1			
Infective enteritis or diarrhoea under 2 years				21					41	
Deaths	59	8	10	5	1	83	12	16	11	2
Measles*	7,312	932	732	136	35	13,337	656	255	30	194
Deaths†			2	—	—	25	—	2		3
Ophthalmia neonatorum	47	1	9	—	—	67	3	8	1	—
Deaths										
Paratyphoid fever	3	—	—	—	1 (B)	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	732	37	8	12	3	981	54	22	15	8
Deaths (from influenza)‡	20	3	—	—	1	121	32	6	2	1
Pneumonia, primary			276	37				277	21	
Deaths	274	41		13	6		92			18
Polio-encephalitis, acute	1	—				2	—			
Deaths							—			
Poliomyelitis, acute	24	5	1	3	—	8	—	2	4	—
Deaths§	3	—					—			
Puerperal fever			10		1		1	11		—
Deaths										
Puerperal pyrexia‖	95	5	10	1	—	109	12	8	1	4
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,710	81	357	26	46	1,167	84	228	30	38
Deaths†			—	—	—	2	—	—		—
Smallpox	—	—	—	—	—	5	—	—	—	—
Deaths				—	—					—
Typhoid fever	—	—	1	15	1	5	—	—	—	—
Deaths	—	—	—	1	—	—	—	—		—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—					—
Whooping-cough*	2,631	158	47	37	17	2,290	224	384	86	21
Deaths	8	—	—	—	—	15	—	4	10	—
Deaths (0–1 year)	430	58	59	27	11	627	83	99	70	15
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	5,569	908	634	201	119	8,352	1412	917	403	182
Annual death rate (per 1,000 persons living)			12·8	12·6				19·1		
Live births	8,784	1493	1051	383	258	10,520	1706	1219	501	304
Annual rate per 1,000 persons living			21·2	24·0				24·6		
Stillbirths	215	20	34			300	42	43		
Rate per 1,000 total births (including stillborn)			31					34		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

‖ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* a rise occurred in the incidence of whooping-cough 79 and measles 103, while decreases were recorded for scarlet fever 118, acute pneumonia 56, and dysentery 46.

The largest rises in the notifications of measles were: London 166, Northamptonshire 137, and Middlesex 99; the largest falls were Lincolnshire 99 and Monmouthshire 92. The only large variation in the returns for whooping-cough was an increase of 100 in Yorkshire West Riding, an increase which was spread over the whole county.

Decreases in the incidence of scarlet fever were reported in Middlesex 38, London 37, Norfolk 30, and Glamorganshire 26; the only large rise was that of Yorkshire West Riding 50. No change of any size occurred in the local trends of diphtheria. A small fall in the incidence of acute pneumonia was recorded in every region except that of the south Midlands, where there was a slight increase.

The largest returns of dysentery were: Lancashire 41 (Blackpool C.B. 12), Yorkshire West Riding 38 (Bradford C.B. 10, Sheffield C.B. 19), and London 12. Only three counties had more than one notification of acute poliomyelitis—Middlesex 5 (Heston and Isleworth M.B. 3), London 5, and Sussex 3 (Cuckfield R.D. 2).

In *Scotland* a decreased incidence was recorded for measles 116 and for diphtheria 21, and an increased incidence was reported for acute primary pneumonia 52 and scarlet fever 30. The fall in the incidence of diphtheria was due to a decrease throughout the western area. Notifications of dysentery declined in the north-eastern area but rose in Edinburgh and Glasgow, where 23 and 17 cases, respectively, were notified during the week.

In *Eire* an increase in the notifications of measles 54 and decreases in scarlet fever 18 and whooping-cough 18 were reported. The rise in the incidence of measles was contributed by three areas—Donegal (Donegal R.D. 31), Dublin (Dublin North R.D. 13), and Galway (Galway R.D. 14). Of the 15 cases of typhoid 10 were notified in Louth, Dundalk U.D.

In *Northern Ireland* increases were reported in the notifications of measles 16, scarlet fever 10, and whooping-cough 6. These rises were due to the experience of Belfast C.B.

Travellers to Saudi Arabia

The Epidemiological Bureau at Alexandria states that the Kingdom of Hedjaz no longer requires anti-cholera inoculation certificates from travellers coming from Egypt.

Week Ending March 6

The notifications of infectious diseases for England and Wales during the week included: scarlet fever 2,069, whooping-cough 3,067, diphtheria 200, measles 8,788, acute pneumonia 794, cerebrospinal fever 42, acute poliomyelitis 22, dysentery 184, paratyphoid 2, and typhoid 5.

Medical News

Medical Society of London

The 168th Anniversary Dinner of the Society was held on March 11 at Claridge's Hotel, London, with the President, Mr. W. E. Tanner, F.R.C.S., in the Chair. The toast of the Society was proposed by the Marquis of Reading and responded to by the President, who observed that the Society had among its members all sections of the medical profession. Whatever might happen with the National Health Service Act, Mr. Tanner said, the voluntary principle would never disappear. The health of the guests was proposed by Mr. G. Armitage, F.R.C.S., and responded to in a characteristically witty speech by Sir Alfred Webb-Johnson. Sir Alfred observed that we were living in times when the freedom of the professions was in danger. The medical profession happened to be the first in the assault. He referred to the supremacy of the law over the executive as the palladium of our liberties and said that the freedom of the profession was involved in the freedom of the peoples.

Lecturing in Poland and Czechoslovakia

Dr. E. A. Carmichael, Director of the M.R.C. Neurological Research Unit, is lecturing in Poland until March 31 and then going for a week each to Czechoslovakia and Austria on behalf of the British Council. He is speaking on the dynamics of the cerebrospinal fluid in man, fatigue and impairment of muscle function in man, and epilepsy.

Ophthalmological Society Award

The Council of the Ophthalmological Society of the United Kingdom has awarded the Treacher Collins Prize to Hugh S. Stannus, M.D., Ph.D., F.R.C.P., for an essay on nutritional eye disease.

Irish Honours for European Scientists

Dr. Gunnar Dahlberg, professor of human genetics in the University of Uppsala, and director of the Swedish State Institute of Human Genetics and Race Biology, has been appointed honorary director of the Lomeshie Research Centre for Anthropology and Race Biology at Londonderry. Dr. Ernst Krueger, an authority on tropical diseases, has been elected an honorary consultant and adviser to Section C (Medicine) of the centre.

Yellow Fever Inoculation at Dundee

Inoculation against yellow fever may be obtained free of charge at the Bacteriological Department, University of St. Andrew's, 60, Small's Wynd, Dundee. Applications (preferably in writing) should be made to Prof. W. J. Tulloch at that address. Sessions are normally held on Mondays, at 2 p.m.

Vaccination

A memorandum on vaccination against smallpox issued by the Ministry of Health recently is being distributed to public vaccinators. It recommends the "multiple pressure" technique which has been in general use for some years in the United States. Copies may be obtained from H.M. Stationery Office, price 2d. or post-free 3d.

Wills

Dr. Charles Bolton, C.B.E., F.R.S., who was director of pathological studies and research at University College Hospital, left £50,880. Dr. Arthur Willoughby Tibbetts, of Pedmore, Worcs, left £25,087. Dr. Charles James Boucher, of Co. Down, left £3,544. Dr. John Evans, of Walton-on-Thames, Surrey, left £16,058.

COMING EVENTS

Honyman Gillespie Lectures

A series of Honyman Gillespie Lectures has been arranged, in association with the Edinburgh Postgraduate Courses, to be held in the West Medical Theatre, Edinburgh Royal Infirmary, on Thursdays at 4.30 p.m. from April 15 to May 27. Details will be published in the diary column of the *Journal* week by week. The lectures are open to all graduates and senior students.

Contraception

A practical demonstration of contraceptive methods will be given by Dr. Marie Stopes and Dr. Beddow Bayly on Thursday, April 1, at 2.30 p.m. Medical practitioners should apply for tickets well in advance to 108, Whitfield Street, London, W.1.

Edinburgh Lectures

In connexion with the postgraduate courses in medicine and surgery a series of open lectures on subjects of wide biological interest has been arranged by the Edinburgh Postgraduate Board for medicine to be given in the West Medical Lecture Theatre of the Royal Infirmary on Tuesdays, April 20, May 4 and 25, and June 15 and 29, at 5 p.m. All graduates and students are invited to attend. Details will be published in the diary column of the *Journal* for the appropriate weeks.

Health Congress at Harrogate

Lord Inman has accepted office as president of the Health Congress of the Royal Sanitary Institute, which is to be held at Harrogate from May 24 to 28. Eight sections have been arranged for the congress, as follows: preventive medicine; engineering and architecture; maternal and child health; veterinary hygiene; food and nutrition; housing and town planning; tropical hygiene; and hygiene in industry. In addition there will be conferences of medical officers of health, engineers and surveyors, sanitary inspectors, and health visitors. The following members of the medical profession are among the presidents of sections and conferences: Prof. G. S. Wilson, Prof. P. A. Buxton, F.R.S., Prof. Andrew Topping, Prof. R. E. Lane, and Dr. F. Hall. The food and nutrition section of the congress will be held jointly with the Food Group of the Society of Chemical Industry, whose chairman, Dr. E. B. Hughes, will act as president of the joint meeting. The programmes for the sections and conferences are nearing completion and details will be issued later by the institute (90, Buckingham Palace Road, London, S.W.1).

Industrial Medicine

The Institute for Occupational Health of the Long Island College of Medicine is presenting a postgraduate course in Industrial Medicine from April 5 to 16. The fee is 75 dollars. Inquiries should be addressed to Dr. Thomas D. Dublin, Department of Preventive Medicine and Community Health, 248, Baltic Street, Brooklyn 2, New York.

SOCIETIES AND LECTURES

Saturday

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, 11, Chandos Street, London, W.—March 20, 2.30 p.m. General meeting. "*Venereal Affections of the Eye*," by Mr. R. Lindsay-Rea.

Monday

MENTAL AFTER CARE ASSOCIATION.—At Burlington House, Piccadilly, London, W., March 22, 4 p.m. Annual meeting. Address by the Rt. Hon. Mr. Justice Birkett, P.C. The annual report will be presented by Dr. Henry Yellowlees, chairman of the association.

Tuesday

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—March 23, 5 p.m. "*Some Aspects of General Physiology*," by L. E. Bayliss, Ph.D.

Wednesday

EGYPTIAN EDUCATION BUREAU.—At 4, Chesterfield Gardens, Curzon Street, London, W., March 24, 6 p.m. "*Some Observations on the Surgery of Peripheral Vascular Disease*," by Prof. A. M. Boyd.

ROYAL MICROSCOPICAL SOCIETY.—At B.M.A. House, Tavistock Square, London, W.C., March 24, 5.30 p.m. for 6 p.m. Section of Industrial Microscopy. "*The Microscopy of Food*," by Mr. H. L. Shipp, B.Sc., A.R.I.C.

SOCIETY OF CHEMICAL INDUSTRY: FOOD GROUP.—At Burlington House, Piccadilly, London, W., March 24, 6 p.m. Joint meeting of Nutrition Panel and British Dietetic Association. "*Special Dietary Requirements in Sickness and Convalescence*," by Dr. D. P. Cuthbertson and Miss R. M. Simmonds, S.R.N.

APPOINTMENTS

BOWMAN, A. K., M.B., Ch.B., Senior Administrative Medical Officer, Scottish Western Regional Hospital Board.

DEWAR, ROBERT S., M.D., D.P.H., Resident Physician Superintendent, County Infectious Diseases Hospital, Motherwell.

DODD, R. R., M.B., B.S., Medical Director, Mass Radiography Service, Northumberland County Council.

MANCHESTER ROYAL INFIRMARY.—*Honorary Assistant Physician (with special interest in Neurology)*: G. G. E. Smyth, M.D., F.R.C.P. *Honorary Assistant Physicians*: H. T. Howat, M.R.C.P., and A. Morgan Jones, M.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Arthur.—On March 8, 1948, at Port Stanley, Falkland Islands, to Robina (*née* Hayward), wife of G. D. Arthur, M.R.C.S., L.R.C.P., Colonial Medical Service, a son.

Ferguson.—On Feb. 18, 1948, at Cloverley Nursing Home, to Dr. and Mrs. Alan Ferguson (*née* Kathleen Smethurst), 13, North Park Drive, Blackpool, a son.

Oldham.—On Feb. 27, 1948, at Maternity Unit, Carmarthen Infirmary, to Valerie (*née* Williams), wife of William Oldham, M.B., Ch.B., a daughter.

Welch.—On March 5, 1948, at Elvet House, Dean Road, South Shields, to Dr. and Mrs. H. D. Welch, a son.

MARRIAGE

Parker—Davies.—On Feb. 28, 1948, at Speen, Newbury, Berks, William Shepherd Parker, M.B., Ch.B., D.P.H., to Margaret Beryl Davies, M.B., Ch.B., D.P.H.

DEATHS

Atkinson.—On March 2, 1948, at Queen Mary's Hospital, Roehampton, Albert Alexander Atkinson, M.B., Ch.B.Ed., of 19, Riverview Gardens, Barnes, S.W.

Dawson.—On March 4, 1948, at 27, Queen's Road, Bromley, Kent, Kathleen Alice Dawson, M.D.

Hallam.—On March 4, 1948, at Stogursey, Bridgwater, Philip Hallam, M.B., Ch.B.Ed., aged 68.

Hamilton.—On March 5 1948, at Beaconsfield, Bucks, Dyddgu Hamilton, L.S.A., aged 81.

Heiser.—On March 4, 1948, at 3, Dane Road, St. Leonards-on-Sea, Arthur Lewis Heiser, M.R.C.S., L.R.C.P., late of Colnbrook, Bucks.

Hird.—On March 2, 1948, at Trevose, Somerset Road, Edgbaston, Birmingham, Robert Beatson Dennis Hird, M.D., F.R.C.S.Ed., aged 67.

Lean.—On March 1, 1948, at Edinburgh, George Lean, M.B., Ch.B., aged 76.

McIlraith.—On March 3, 1948, at 44, Half Moon Lane, Herne Hill, S.E., Charles Hugh McIlraith, M.D.Glas.

Middlebrooke.—On March 2, 1948, at Dyreham, Brookway, Friars Cliff, Christchurch, Herbert Edwin Middlebrooke, L.M.S.S.A., D.P.H., dearly loved husband of Mary Ethelwyn Middlebrooke.

Phillips.—On March 1, 1948, at Wotton-under-Edge, Glos., George Charles John Phillips, M.D., aged 83.

Russell.—On March 7, 1948, at Grant Lodge, Caterham, Surrey, James Russell, M.D.Ed., aged 84.

Speck.—On March 6, 1948, Simon Speck, M.R.C.S., L.R.C.P., of 241, South Lambeth Road, London S.W., aged 44.

Symes.—On March 2, 1948, William Johnston Symes, M.B., B.S., of 4, Glenleigh Avenue, Bexhill-on-Sea, Sussex.

Thomson.—On March 1, 1948, at The Fives Court, Pinner, Middlesex, John Duncan Thomson, M.B., C.M.

Wade-Evans.—On March 2, 1948, at South London Hospital, Clapham Common, S.W., Elizabeth Palmyre Wade-Evans, M.B., Ch.B.Glas., of Cane Hill Hospital, Coulsdon, Surrey.

White.—On March 3, 1948, at a Guildford nursing home, Charles Francis Orr White, M.R.C.S., L.R.C.P., D.M.R.E., aged 69.

Williams.—On March 3, 1948, at Monmouth, William Humphrey Williams, M.R.C.S., L.R.C.P., aged 67.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Recurrent Attacks of Lobar Pneumonia

Q.—*Can anything be done to prevent children who have recovered from a first attack of lobar pneumonia developing fresh attacks at intervals of a few months?*

A.—It is possible in such cases that resolution has not been complete, or that the pneumonia was associated with the blocking of a bronchus and collapse of a portion of the lung. *X*-ray studies indicate that the latter explanation is the more probable, and "unresolved pneumonia" is being less used nowadays as a term in children's work. In either case, a change of air, breathing exercises, and letting the child run about and expand the lungs fully will all help, and, indeed, many children with collapse of the lung get perfectly well on this programme. If radiographs show that a collapse is persisting, then the question of further measures to induce re-expansion arises. These would include postural drainage, "slapping" the chest in a more intensive attack by physiotherapy, and possibly the use of iodides to promote pulmonary secretion. If these measures fail, then bronchoscopy should be undertaken, with or without previous bronchography.

Since the question says "recovered," it may be assumed as a second alternative that no apparent pathological change persists as proved by *x*-ray study. In this case measures to raise general and specific immunity should be considered. The state of the child's upper respiratory tract, especially the nasal sinuses, should be investigated and any disease process dealt with. Finally, the epidemiology of the recurrent attacks might be considered. Is there a "carrier" in the house or school?

Achondroplasia

Q.—*Can you give me particulars about achondroplasia, or, as some call it, chondrodystrophy? Is it related to dwarfism in certain animals, such as the conditions we find in the Ancon sheep and the dachshund? It is generally considered to be a Mendelian dominant: is that so? Does it affect the sexes equally? Can it be traced to an endocrine deficiency?*

A.—The essential pathological feature of achondroplasia is a disturbance of endochondral ossification, especially at the ends of the long bones. There is not a failure of development of the cartilage, as the name might imply, but an arrest of bone formation in cartilage. Bones formed in membrane are little if at all affected. Clinically, therefore, the most striking manifestations are present in the long bones and base of the skull. The spine is also affected, though to a less extent. Certain animals have characteristics which are thought to be related to achondroplasia, but there are many aspects of the problem that are not fully understood. Thus in the dachshund the limbs are achondroplasic but not the head; while in the pug-dog the reverse is the case. Matings of pure-bred Dexter cattle (a diminutive breed) result in a high proportion of non-viable monsters having skeletal changes closely resembling those of achondroplasia.

In the case of the Dexter cattle referred to above the incidence of the achondroplasic condition suggests that it is a Mendelian dominant character. The same is probably true of the human disorder. It is interesting to note that attempts made by Catherine de' Medici to raise a race of achondroplasic dwarfs by arranging their intermarriage were unsuccessful. This may have been largely due to the fact that spontaneous delivery of a living child by an achondroplasic woman is often impossible owing to the extreme narrowing of the pelvic inlet. Achondroplasia affects the two sexes equally. Its cause remains unknown. It has not been traced definitely to an endocrine deficiency, and no histological changes in the endocrine glands have been consistently demonstrated. Nevertheless an insufficiency of the anterior pituitary secretion during development is regarded by some as the most likely cause of the condition.

Diasone in Leprosy

Q.—*What are the dosage, mode of action, and toxic reactions of diasone in the treatment of leprosy?*

A.—The dosage of diasone in the treatment of leprosy is 0.33 g. daily for the first two weeks and then a gradual increase to 1 g. daily. It is given by mouth and may be continued for long periods. The mode of action is similar to that of sulphonamides in streptococcal infections. Diasone is a derivative of diamino-diphenyl sulphone, and is closely related to the sulphonamides, such as sulphanilamide. The toxic reactions which occur in 1–5% of those treated are increased erythema nodosum with fever, dermatitis, gastric intolerance, haematuria, anaemia, and iridocyclitis.

Stilboestrol and Dienoestrol

Q.—*Is there any evidence that stilboestrol and dienoestrol may be carcinogenic? What are the dangers of taking dienoestrol for menopausal rheumatism?*

A.—So far as the human being is concerned the evidence is only presumptive in nature. All oestrogens, natural or synthetic, are powerful epithelial stimulants acting especially on the tissues of the breast, uterus, Fallopian tubes, vagina, and vulva. They cause endometrial hyperplasia, and many pathologists believe that this condition can itself lead to carcinoma. Some of the natural oestrogens have a chemical formula similar in type to that of the carcinogenetic tars. In animals skin cancer has been produced by repeated local applications of oestrogens, and this hormone has been shown to favour the development of breast carcinoma in strains of mice which are not otherwise susceptible, and in male animals. However, oestrogens have never been shown to cause carcinoma in the human being, and there is probably little risk of this provided ordinary dosage is used and treatment is not continued for an indefinite period. Nevertheless there is good reason for caution when dealing with a patient who has a precancerous lesion in the genital tract (e.g., leucoplakia vulvae, chronic cervicitis) or who has a strong family history of malignant disease. For further details reference might be made to an article, "Oestrogens and Carcinoma of the Uterus," by A. A. Gemmell and T. N. A. Jeffcoate (*J. Obstet. Gynaec. Brit. Emp.*, 1939, **46**, 985).

The dangers of taking dienoestrol for menopausal rheumatism depend on how much is given and for how long. The dose should not exceed 0.3 mg. daily, and should be gradually reduced with a view to completing the course of treatment in two or three months. Even with this dose uterine bleeding may occur. With uncontrolled and prolonged dosage the chief risks are endometrial hyperplasia, uterine haemorrhage which may require curettage if only to exclude other causes, and severe menopausal symptoms following sudden cessation of treatment.

Penicillin and Procaine

Q.—*Can you tell me whether 3% "novutox," or any of the accessory preservative substances which this proprietary local analgesic contains, would be likely to inactivate penicillin if used as a solvent for intramuscular injection?*

A.—Novutox contains procaine and *iso*-octylhydrocupreine hydrochloride. It is known that penicillin is not inactivated when procaine is mixed with it, but there is no information on the effect of octylhydrocupreine. The only way to determine whether novutox inactivates penicillin is to prepare mixtures and to have them assayed. It is likely that if the mixture is not alkaline the penicillin will not be inactivated. There will shortly be put on the market a compound of procaine and penicillin in oil for intramuscular injection. A new crystalline penicillin has been prepared by combining procaine with penicillin G; the crystals have a solubility of approximately 7,000 units per ml. in oil, oil-and-water emulsion, or physiological saline; they contain not less than 90% penicillin G with a potency of 940 units per mg. (1,040 units per mg. theoretical). In the oil suspension at least 50% of the total weight of the

particles are 50 μ or more in length. When intramuscular injections of procaine penicillin in cotton-seed oil were given to patients it was found that they had blood levels of 0.062 to 0.496 units per ml. after injections of 1 to 4 ml. There was no local or systemic reaction. It is suggested that the slower absorption of this form of penicillin is due to the larger size of the particles. The importance of particle size for slow absorption has been demonstrated by Dowling *et al.* (1947) and Welch *et al.* (1947). The presence of wax has been the cause of a number of local reactions. The relevant papers are: Sullivan, N. P., *et al., Science,* 1948, **107**, 169; Dowling, H. F., *et al.*, and Welch, H., *et al., Meeting of Syphilis Study Section, Washington, D.C.*, Sept. 24, 1947.

Breast Development

Q.—*Is hormone therapy a safe method for increasing breast measurements? What is the optimum dose of oestrin and progesterone when used for this purpose?*

A.—Inadequate development of the breasts may be due to a general lack of endogenous oestrogen and progesterone, but more usually it is due to a local refractoriness to a normal stimulus. Therefore local inunction with oestrogens increases the concentration of stimulation at the site and may be successful. A useful ointment is one containing 2 mg. of oestradiol benzoate per g. put up in 18-g. tubes, which can be used over a 14-day period and continued for some months. Such local treatment is unlikely to prove disturbing. If progesterone is also given by injection it should be administered only in the ten days preceding menstruation.

Scrotal Eruption

Q.—*What is the most likely cause of a chronic scaly irritating eruption, confined to the scrotum, in a patient free of phthiriasis and other local causes of irritation? Is it likely to be related to athlete's foot, which coexists; and what line of treatment is suggested?*

A.—The lesion described might be due to fungus, but the details given are not sufficient to allow a serious opinion to be expressed. The only certain method of arriving at a diagnosis in this regard is by examining scrapings in liquor potassae under the microscope and attempting to culture the fungus. If the lesion is of fungus origin it should respond readily to Whitfield's ointment or dithranol ointment. The affection may be unrelated to ringworm of the foot and may be a chronic eczematous or seborrhoeic dermatitis, in which case tar therapy may be most helpful.

Scrotal Hernia

Q.—*Would the presence of a scrotal hernia which is more comfortable in the scrotum than when held in the abdomen by a truss cause sterility in the affected testicle by the continued, though slight, pressure and by the increased temperature of the bowel loop adjacent to that organ?*

A.—Theoretically, the testicle on the affected side would be subject to increased warmth and pressure, but its fertility would not be likely to be seriously impaired. In any case the testicle on the opposite side would not be affected, and an occasional semen analysis would be a more reliable guide than theoretical considerations.

Assessment of Disability

Q.—*What is the percentage disability allowed in the case of a labourer for the loss of (1) thumb, (2) index, (3) middle, (4) ring, and (5) small finger, right hand? It is assumed that the scar is on the dorsal aspect and that the amputation is full, not partial. Is there any way of finding out if the scar is painful, other than taking the patient's word for it?*

A.—The problem of compensation in cases of hand injury is somewhat complicated because of the number of factors that must be taken into consideration. Apart from the nature of the man's occupation, important factors are age, whether the major or the minor hand is affected, and whether or not there is pain or tenderness. An award for permanent disability is based on decreased earning power, and is intended to help in the support of the patient and his dependants until he has adapted himself to his new environment. Strictly, it is not compensation for loss of a part, though it may be assessed on the basis of loss of parts.

An average disability assessment in the case of a general labourer for loss of digits would be: thumb, 15%; index finger, 8%; middle finger, 6.5%; ring finger, 5%; little finger, 3.5%. There is no satisfactory objective test to determine whether or not a scar is painful.

Iritis and Ulcerative Colitis

Q.—*Is there any connexion between ulcerative colitis and iritis? A female patient has suffered from ulcerative colitis for the past 18 months; about 12 months ago she developed an acute iritis with all its symptoms—lasting three months. The usual treatment was prescribed: atropine sulphate drops 1% and heat applications. Now another attack of iritis has developed in the same eye, and after five weeks there is no appreciable change. What is the accepted modern treatment of iritis?*

A.—Little is known of the aetiology of either ulcerative colitis or iritis; an association of the two conditions is not established, but it cannot be excluded that in a particular patient both affections may have the same underlying cause. A full investigation of the patient is highly desirable. The treatment of iritis is still largely symptomatic and does not extend beyond the measures indicated in the question. Refinements in the application of atropine consist in the subconjunctival injection of mydricaine (a specially prepared solution of atropine sulphate 1/60 gr. (1.1 mg)., cocaine hydrochloride 1/10 gr. (6.5 mg.), and adrenaline 1/600 gr. (0.11 mg.) to 5 minims (0.3 ml.). Such injections can be given daily in doses of 5 to 7 minims (0.3–0.4 ml.), and sometimes help in breaking down recently formed adhesions in cases where atropine has failed. Heat may be applied by means of short-wave therapy given by an expert physiotherapist.

Pyloric Stenosis

Q.—*What is the best way to prescribe atropine methyl nitrate in a case of congenital pyloric stenosis? I have seen it recommended as 3 to 5 ml. of a freshly prepared 1 in 10,000 solution, or as 0.6% in alcohol (4 drops). Which preparation would keep better, and for how long?*

A.—The alcoholic solution keeps better and longer. Four drops of it are required to 1 ml. of the watery solution. But many children's physicians prefer to use the "linguella" for placing under the tongue and securing, apparently, maximum absorption. Each one contains the equivalent of 1 ml. of the 1 in 10,000 watery solution. If stored in a dry place and at room temperature (and in the manufacturer's "cellophane" wrapper) these keep more or less indefinitely.

Intra-arterial Penicillin

Q.—*Has the arterial injection of penicillin been tried? Since osmotic pressure tends always to attract water, and since if it is lowered the power of the blood to retain fluid is diminished, with resultant exudation, would the injection of a hypotonic solution of saline in which the penicillin is dissolved be better than an isotonic solution? Further, since tissue activity is the controlling factor in tissue-fluid formation, would it not be advantageous to advise free movement of the limb immediately after the injection? Finally, is the practice of arterial injection too painful to merit its use?*

A.—The intra-arterial injection of penicillin has been discussed twice in this *Journal* quite recently—in an annotation on Dec. 27, 1947 (p. 1040), and in a letter from G. M. Din (Feb. 7, 1948, p. 274). The use of a hypotonic solution would be unlikely to have the effect described unless the volume was large and stasis was produced for a long period; there would also be some risk of haemolysis. It is also doubtful whether active movement would make much difference to the effect. The usual method of ensuring diffusion from the vessels is to raise the pressure in them by occluding venous return for a short period. Intra-arterial injections are decidedly painful, but evidently not too painful in view of the experiences quoted.

Blood from the Umbilical Cord

Q.—*Will blood taken from the maternal side of the umbilical cord following delivery give a positive reaction to the Wassermann and gonococcal complement-fixation tests in the case of mothers suffering from syphilis and gonorrhoea?*

A.—Yes, blood taken from the maternal end of the umbilical cord may give positive reactions to the Wassermann and gonococcal complement-fixation tests, just as would blood taken from an arm or other vein of the mother. It must be remembered, however, that a negative W.R. does not exclude syphilis and that a positive G.C.F.T. is usually obtained only when the gonococcal infection is well established or has been the cause of complications.

Oedema of Foot and Ankle

Q.—*A patient who twisted her left foot eight months ago now has persistent pitting oedema of the left foot and ankle. This becomes very marked after standing or walking. The swelling is not tender; ankle movements are full and free, and radiographs show no bone injury or abnormality. There are no varicose veins; albumin is absent from the urine; and there is no other obvious pelvic abnormality. Can you suggest a line of investigation and treatment?*

A.—This patient should wear an elastic anklet or stocking to control the swelling and should also have regular massage, contrast baths, and exercises for the calf and the intrinsic muscles of the foot. It is possible that the injury has left behind a flat foot or some slight restriction in full joint movement. In the former case the use of an arch support or a wedged shoe is occasionally necessary, and in the latter manipulation under thiopentone. A progressive lymphoedema sometimes follows a sprained ankle, and elastic support is the proper treatment for this.

Menopausal Blood Donors

Q.—*A woman suffering from severe menopausal symptoms—in particular hot flushes, cold shivers, etc.—but with no vaginal bleeding, wishes to enrol as a blood donor. Assuming the severity of the syndrome is due to hormonal imbalance, could the altered oestrogen level of the blood adversely affect the recipient?*

A.—No; neither the low oestrogen level nor the compensatory high gonadotrophin level which is characteristic of a climacteric disturbance would have any noticeable effect on the recipient of the blood. Even if the amounts of hormones in circulation were grossly disturbed a single administration would not produce symptoms. The hormones would be quickly utilized, inactivated, or excreted. If it were otherwise then surely care would be necessary to distinguish male and female blood for transfusion purposes, and also to grade female blood according to the time in the menstrual cycle at which it was withdrawn.

Persistent Oxaluria

Q.—*An otherwise healthy young man has persistent oxaluria in spite of restriction of oxalate-containing foods. He has crises every few months, with right renal pain and oxalate crystals, red cells, and albumin in the urine. Radiographs are negative. What treatment do you suggest?*

A.—It may be difficult to control the attacks in patients with the "oxalic acid diathesis." Some psychiatrists have claimed that such attacks are a symptom of overweening ambition. Only part of the oxalate excreted in the urine is exogenous; this can be diminished by excluding from the diet the oxalate-containing foods: spinach, rhubarb, gooseberries, carrots, oranges, red-currants, and strawberries. The other aim of treatment is to increase the solubility of oxalates in the urine by increasing its acidity, lowering its calcium content, and raising the quantity of magnesium excreted. This is most likely to be effected by a high-protein diet with a relatively small quantity of carbohydrate and by the administration of acid sodium phosphate.

NOTES AND COMMENTS

The Doctors' Dilemma.—Mr. Ritchie Calder, science editor, complains of comments we made on his article entitled "The Doctors' Dilemma" appearing in the *News Chronicle* of Jan. 28. We withdraw any imputation of deliberate misrepresentation of the facts by Mr. Calder or any unintentional reflection on his professional integrity and accuracy as a science writer.

Phosphaturia.—Dr. G. H. DAVY (London, W.) writes: In answer to the question whether there is any relation between phosphaturia and acne rosacea, fibrositis, insomnia, or other nervous disorders ("Any Questions?" Feb. 28, p. 426), no mention is made of the fact that the condition is a very frequent symptom of any anxiety state. In fact it is a not uncommon presenting symptom—patients coming up with the fear that the condition is spermatorrhoea, to which they attribute their debility. I have seen it in peptic ulcer, where it may be due to the general anxiety of the diathesis. In other cases it is due to excessive doses of alkalis. It may be seen in many patients with conscious worry and anxiety.

It is sometimes the cause of sharp pain at the end of micturition which may last for a few moments after the completion of the act. As this complaint is only made by the male it is obviously due to noticing the whiteness of the flow of urine, which rouses fear that there is something wrong with this important part.

Rectal Prolapse.—Dr. T. S. GOODWIN (St. Leonards-on-Sea) writes: In the treatment of an obstinate case of rectal prolapse in an old lady of 88, which was 6 inches long and of frequent appearance during the last six years, I have had complete success from the method mentioned by Dr. Philip Jabkovitz (Dec. 27, 1947, p. 1066) of introducing a ring of silver wire subcutaneously round the anus.

Under general anaesthesia the wire was introduced on a large needle and adjusted to admit the passage of one finger comfortably. There has been complete cure since, with no relapse these two months.

Demodex Infestation.—Dr. R. P. LAWSON (Collingham Bridge, nr. Leeds) writes: Under "Any Questions?" (Feb. 21, p. 376) you publish a question about demodex infestation. My two dogs have recently been infested, one heavily and both for several weeks before the cause of their mange was diagnosed.

On the advice of a veterinary surgeon I bathed them every other day until they had had five baths, and followed each bath by lathering them while still wet with "tetmosol," 1 part to 3 parts of water. This was then allowed to dry on them. For some days afterwards they were full of scurf and lost even more hair, and required thorough brushing and combing. They did remarkably well and there has been no sign of recurrence since the treatment, which was in November. I used 18 oz. of the undiluted tetmosol in all on the two dogs, a terrier and a cocker.

Thorium X for Treatment of Baldness.—Dr. BERNARD GREEN (London, W.) writes: I have used thorium X for a variety and large number of dermatoses over the course of many years and have yet to see any ill effects from its application. Pigmentation sometimes follows, but usually disappears in a few months. Whilst agreeing that for ordinary types of masculine baldness it has no effect and for cases of alopecia totalis and universalis the results have been disappointing, for cases of alopecia areata the results have been gratifying. In controlled experiments (Corsi, *Lancet*, 1947, **2**, 506), the conclusion arrived at was that if the hair was going to grow the application of thorium X hastens its recovery. I was in charge of the thorium X clinic at St. John's Hospital. There, cases of naevus flammeus were treated with 1,000 E.S.U. at weekly, fortnightly, and monthly intervals for many months. I followed up all these cases for over four years and in no case had I seen any ill effect.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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